



ROBINAIR

Operating Manual

**Model 25200A
Refrigerant Recovery Unit**

(not for use in automotive R-134a applications)

ROBINAIR

Refrigerant Recovery Unit

Model: 25200A Series

Type of Equipment: Recovery

Refrigerants: R-12, R-22, R-134a, R-500 and R-502



LISTED
Refrigerant
Recovery
Equipment
12Y2



DESIGN PRESSURE: High 380 psig; Low 250 psig

WARNING

PRESSURIZED TANK CONTAINS LIQUID REFRIGERANT. OVERFILLING OF THE TANK MAY CAUSE VIOLENT EXPLOSION AND POSSIBLE INJURY OR DEATH. Safety devices require the use of only the following Robinair UL listed tanks: 17571 (30 lb. tank) and 17572 (50 lb. tank). Do not recover refrigerants into a non-refillable storage container! Federal regulations require refrigerant to be transported only in containers meeting DOT spec. 4BW or DOT spec. 4BA.

CAUTION: TO REDUCE THE RISK OF INJURY, care should be taken when moving this equipment.

ALL HOSES MAY CONTAIN LIQUID REFRIGERANT UNDER PRESSURE. Contact with refrigerant may cause injury. Wear proper protective equipment, including safety goggles. Disconnect hoses with extreme caution.

HIGH VOLTAGE ELECTRICITY INSIDE PANELS. RISK OF ELECTRICAL SHOCK. Disconnect power before servicing unit. Refer to the instruction manual.

TO REDUCE THE RISK OF FIRE, avoid the use of an extension cord because the extension cord may overheat. However, if you must use an extension cord, the cord shall be No. 14 AWG minimum and keep the cord as short as possible. Do not use this equipment in the vicinity of spilled or open containers of gasoline or other flammable substances. Use this equipment in locations with mechanical ventilation that provides at least four air changes per hour or locate the equipment at least 18 inches above the floor. Make certain that all safety devices are functioning properly before operating the unit. Before operating, read and follow the instructions and warnings in the operating manual.

Use only with refrigerants R-12, R-22, R-134a, R-500 or R-502. This equipment is not designed for any other purpose than recovering refrigerants! Do not mix refrigerant types.

CAUTION: SHOULD BE OPERATED BY QUALIFIED PERSONNEL. Operator must be familiar with air conditioning and refrigeration systems, refrigerants and the dangers of pressurized components.

ATTENTION!

Ce réservoir sous pression contient du frigorigène liquide. S'il est surchargé, ce réservoir peut exploser et causer des blessures ou la mort.

Les dispositifs de sécurité exigent l'utilisation exclusive de biuteilles de réfrigérant rechargeables agréées. Ceci inclut la pièce Robinair N° 17571 (bouteille de 30 lb/14kg).

Débrancher avant la maintenance.

Pour réduire le risques d'incendie, éviter d'utiliser une rallonge car elle présente des risques de surchauffe. En cas d'utilisation, il faut une rallonge N° 14 AWG min.

Ne pas utiliser cet équipement près de réservoirs d'essence débordants ou ouverts.

Utiliser cet équipement dans des endroits pourvus d'une ventilation mécanique qui prévoit au moins quatre renouvellements d'air par heure, ou placer l'équipement à 45 cm au moins au-dessus du sol.

Utiliser seulement du frigorigène R-12, R-22, R-134a, R-500, or R-502.

OPERATING NOTES

At temperatures exceeding 120° F/49° C, wait 10 minutes between recovery jobs.

This equipment has been certified by ARI to meet EPA's minimum requirements for recovery and recycling equipment intended for use with all HCFC-22 appliances and other high pressure appliances containing less than 200 pounds.

Rated in accordance with ARI 740-9

R-12, R-134a	R-22	R-500	R-502
4.50	5.60	3.00	5.00
0.25	0.33	0.25	0.40
15.00	15.00	15.00	15.00

Liquid Recovery Rate (lbs./min.)

Vapor Recovery Rate (lbs./min.)

Shutoff Vacuum (in. Hg)

U.S. Patents: 5,005,375; 5,203,177; 5,209,077. U.S. and Foreign Patents Pending.
Manufactured by Robinair Division, SPX Corporation, Montpelier, OH 43543-1933 USA

TABLE OF CONTENTS

Glossary of Terms	3
Operating Guidelines	3
Set Up Instructions	4
<i>Figure 1—Top View of Unit</i>	4
<i>Figure 2—Front View of Unit</i>	5
<i>Figure 3—Hose Connections</i>	5
Operating Instructions	6
Recovery Procedures	6
Tank-to-Tank Transfer	7
TANK FULL or HIGH PRESSURE	7
Self-Clearing Procedures	8
Maintenance	9
Replacement Parts	9
Troubleshooting Tips	10
Flow Diagram	12
Wiring Diagram	13
Limited Warranty	15

GLOSSARY OF TERMS

A/C-R	Air conditioning or refrigeration
A/C-R System	The air conditioning or refrigeration system being serviced
Unit	The refrigerant recovery unit
Tank	The refillable refrigerant tank

OPERATING GUIDELINES

The voltage at the unit must be $\pm 10\%$ of the unit's rated voltage.

Extension cords must be a minimum of 14 AWG and kept as short as possible.

To minimize mixing of refrigerants, the self-clearing procedure must be performed after each recovery operation.

The low side gauge on the unit allows you to monitor system pressure and stop recovery when a deep enough vacuum has been reached. The high side gauge on the unit allows you to monitor the refillable tank pressure.

When changing from liquid to vapor, the unit may switch back and forth several times before staying on vapor. You may notice the liquid and vapor lights switching and hear the solenoids opening and closing. This is normal and does not affect the unit or its operation.

Present UL approval addresses refrigerants R-12, R-134a, R-22, R-500 and R-502. UL approval is pending for new substitutes and blends.

Set Up Instructions

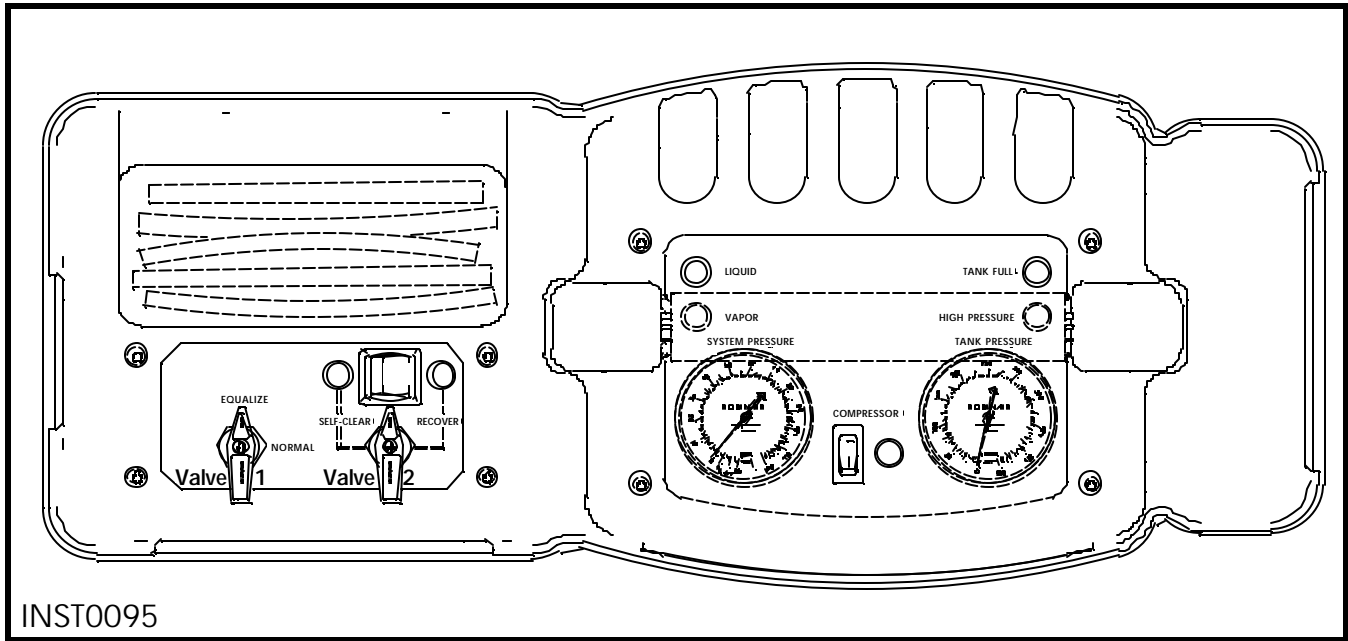


Figure 1—Top View of Unit

The unit comes with four 60" Enviro-Guard hoses with ball valves. Either blue hose may be used where blue hose connections are called for, and either red hose may be used for red hose connections.

CAUTION! Be sure ball valves on hoses are in the closed position before connecting them.

1. Connect the hoses as follows:

Hose	Standard End connects to:	Ball Valve End connects to:
First Blue Hose	TANK LIQUID fitting on unit	LIQUID port on tank
First Red Hose	TANK VAPOR fitting on unit	VAPOR port on tank
Second Blue Hose	SYSTEM VAPOR fitting on unit	SYSTEM VAPOR port
Second Red Hose	SYSTEM LIQUID fitting on unit	SYSTEM LIQUID port

2. Connect the yellow overfill cable to the corresponding fitting on the recovery tank.
3. Plug the unit into the proper electrical outlet. The fan will start running immediately.

The unit is ready for operation.

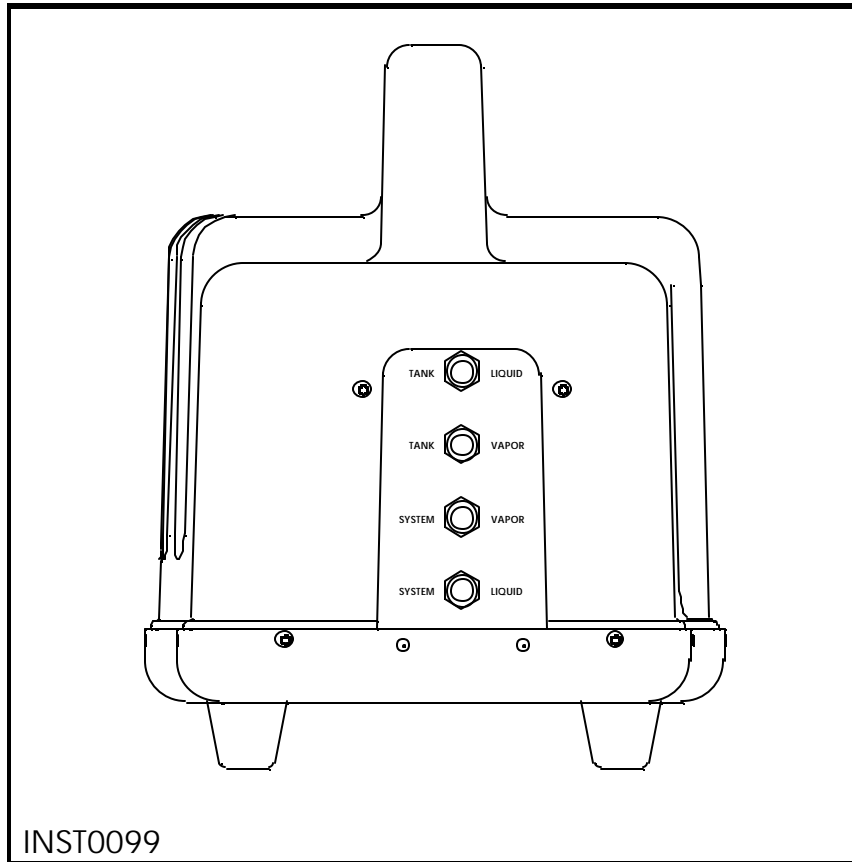


Figure 2—Front View of Unit

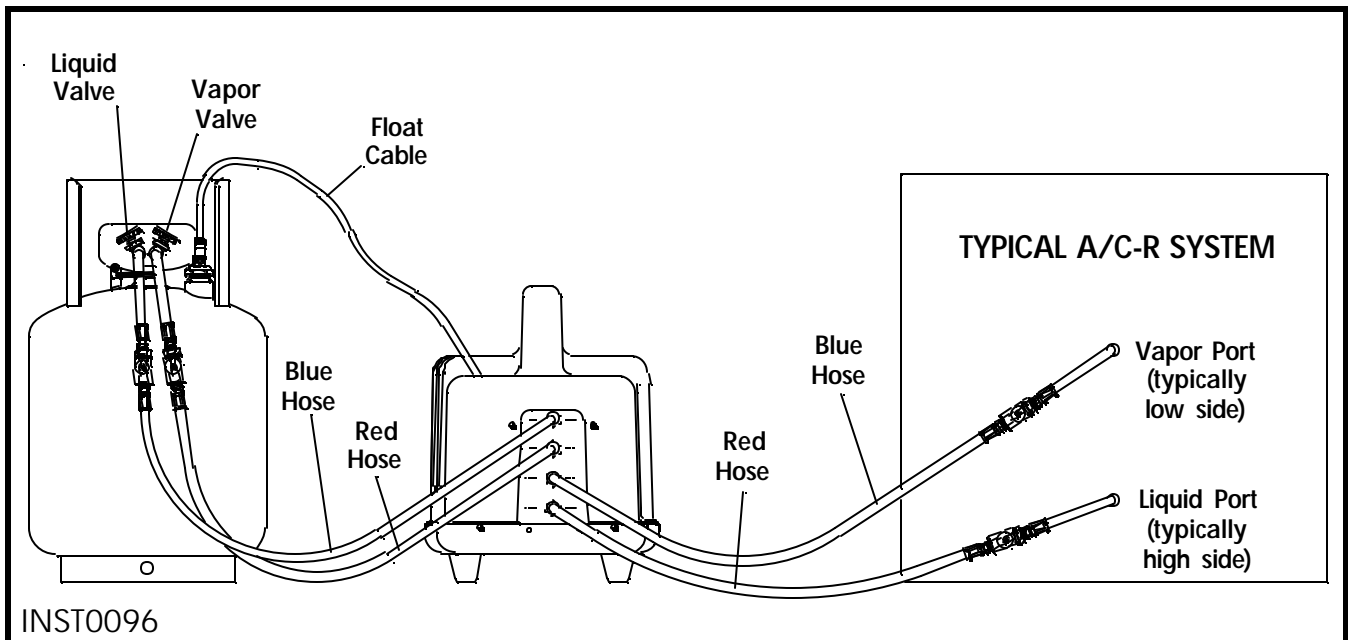


Figure 3—Hose Connections

RECOVERY PROCEDURE

WARNING

Always wear safety goggles when working with refrigerants. Use only authorized refillable refrigerant tanks with tank float switch devices. Disconnect hoses with extreme caution!

All hoses may contain refrigerant under pressure. Read and follow all warnings at the beginning of this manual before operating the unit.

1. Connect the hoses as described in the *Set Up Instructions*.
2. Open the LIQUID and VAPOR valves on the recovery tank. Open the ball valves on all four hoses.
3. Look at the system pressure gauge on the unit to be sure there is refrigerant pressure in the system. If there is no pressure, there is no refrigerant to be recovered.

Note: By taking the ambient temperature and using a pressure/temperature chart, you can use this pressure to determine the type of refrigerant in the system.

4. Be sure Valve 2 on the control panel is pointing toward RECOVER. Also, toggle the Valve 2 switch so that the RECOVER light comes on. (See Figure 1.)
5. Turn Valve 1 to EQUALIZE for two to five seconds. This equalizes pressure on the high and low side of the compressor for easier start-ups. Then turn Valve 1 back to the NORMAL position. (See Figure 1.)
6. Press the COMPRESSOR switch to ON. The compressor light will come on and you will hear the compressor start. (See Figure 1.)

An optical sensor monitors refrigerant being recovered and automatically adjusts the unit to handle either liquid or vapor refrigerant. This provides for the most efficient recovery. The amber lights on the control panel indicate the state (LIQUID or VAPOR) of the refrigerant currently entering the unit.

7. The blue gauge labeled SYSTEM PRESSURE shows the current system pressure throughout the recovery process. When the system pressure reaches an adequate vacuum level, press the COMPRESSOR switch to OFF.

The recovery process is complete, but the unit must be cleared before disconnecting all hoses (see *Self-Clearing Procedure*).

TANK-TO-TANK TRANSFER

If you are recovering refrigerant from one refillable tank into another, the color of the hoses used for SYSTEM LIQUID and SYSTEM VAPOR may not match the color of the liquid and vapor valves on the tank you are pulling refrigerant from. Be sure the hose for SYSTEM LIQUID is connected to the liquid valve of the tank and the hose for SYSTEM VAPOR is connected to the vapor valve of the tank.

1. Connect the hoses as follows:

Hose	Standard End connects to:	Ball Valve End connects to:
First Blue Hose	TANK LIQUID fitting on unit	LIQUID port on tank refrigerant is being transferred into
First Red Hose	TANK VAPOR fitting on unit	VAPOR port on tank refrigerant is being transferred into
Second Blue Hose	SYSTEM VAPOR fitting on unit	VAPOR port on tank refrigerant is being transferred from
Second Red Hose	SYSTEM LIQUID fitting on unit	LIQUID port on tank refrigerant is being transferred from

2. Follow Steps 1 through 7 in the *Recovery Procedure*.

TANK FULL OR HIGH PRESSURE

If during the recovery or self-clearing process, the TANK FULL or HIGH PRESSURE light comes on, check that all appropriate valves are open and that the float cable is connected. If they are and either light is still on, follow these steps.

1. Press the COMPRESSOR switch to OFF.
2. Close both valves on the refillable tank and close both valves on the red and blue hoses connected to the tank.
3. Disconnect the red hose, the blue hose and the float cable from the refillable tank.
4. Replace this tank with an empty refillable tank.
5. Reconnect the hoses and the float cable as described in the *Set Up Instructions*. Then follow the steps in either the *Recovery Procedure* or the *Self-Clearing Procedure*.

If after completing the above steps, either light is still on, call the Technical Support Line at (800) 822-5561.

SELF-CLEARING PROCEDURE

CAUTION! Do not mix refrigerant types. Always perform the self-clearing procedure after each recovery. Beginning each job with a “clean” unit will help eliminate mixing of different refrigerant types.

1. Close the ball valves on the red and blue hoses connected to the A/C-R system. Disconnect these hoses from the system’s access ports.
2. Close the blue LIQUID valve on the tank and the ball valve on the blue TANK LIQUID hose. Disconnect the TANK LIQUID hose from the tank.
3. Check to be sure the red TANK VAPOR hose is still connected to the red VAPOR fitting on the tank. Both the tank’s red VAPOR valve and the ball valve on the red TANK VAPOR hose should be open.
4. Turn Valve 2 on the control panel to SELF-CLEAR. Toggle the Valve 2 switch to the SELF-CLEAR position. (See Figure 1.)
5. Turn Valve 1 on the control panel to EQUALIZE for two to five seconds. This equalizes pressure on the high and low side of the compressor for easier start-ups. Then turn Valve 1 back to the NORMAL position. (See Figure 1.)
6. Press the COMPRESSOR switch to ON. You will hear the compressor start and the compressor light will come on. (See Figure 1.)
7. Let the compressor run for one to two minutes, then press the COMPRESSOR switch to OFF. Unplug the unit from the electrical source.
8. Close the red VAPOR valve on the tank and the ball valve on the red TANK VAPOR hose. Disconnect the TANK VAPOR hose and the float cable from the tank.

WARNING

Disconnect hoses with extreme caution! All hoses may contain refrigerant under pressure.

9. While the hoses are still connected to the unit, *slowly* open the ball valve on each hose to relieve any pressure in the hose. Close the ball valves, then disconnect the hoses from the unit.
10. Coil the float cable, power cord and hoses and store them in the built-in storage pocket.

Your unit has been designed for minimal maintenance. The compressor should be evaluated for wear after 2,500 hours of use. Call Robinair's Technical Support Line, (800) 822-5561, for the location of an authorized Robinair service center near you.

For a minimal cost you can trade your used compressor for a re-manufactured one, which is covered by the same warranty as new compressors. The compressor manufacturer replaces all seals and any other components showing wear, then tests units to new compressor specifications before supplying them to our service centers.

REPLACEMENT PARTS

	115v	230v
Check Valve 1/8 MP x 1/8 MP	RA19282	RA19282
Check Valve 1/4 MFL x 1/8 MP	RA19287	RA19287
Check Valve 1/8 MP x 1/4 MFL	RA19288	RA19288
Ball Valve 2 (3-Way)	RA18767	RA18767
Ball Valve 1 (2-Way 90°)	RA19291	RA19291
Crankcase Pressure Regulator	RA19341	RA19341
System Pressure Gauge	41675	41689
Tank Pressure Gauge	41676	41690
Capacitor	RA19342	RA19342
Switch—Compressor	RA19343	RA19343
Switch—Recover/Self-Clear	RA19060	RA19060
High Pressure Cut-Out	RA19104	RA19104
Ball Valve Hose—60" Red	RA19344	RA19344
Ball Valve Hose—60" Blue	RA19346	RA19346
Relay, DPST	RA17459	RA17459
Compressor	RA19302	RA19314
Relay, Compressor Start	RA19347	RA19348
Indicator Light, Red	RA17106	RA19349
Indicator Light, Amber	RA17107	RA19351
Solenoid	RA19006	RA19088
Fan	RA17416	RA17516
Relay, SPDT	RA19133	RA19134
Optical Sensor	RA19283	RA19286

CAUTION!
Clean the shroud and/or base with standard soap and water only. Industrial solvents found in most cleaners and degreasers can cause the plastic to crystallize and become brittle.

Compressor light illuminates but compressor does not start

Problem: Compressor head pressure is too high

Solution: Turn Valve 1 to the EQUALIZE position for a couple of seconds before starting

Problem: Compressor thermal protector has tripped

Solution: Allow the compressor to cool before re-starting

Compressor light does not illuminate and compressor does not start

Problem: TANK FULL light is on

Solution: Attach the float cable to the float connector on the tank or replace the full tank with an empty tank

Problem: HIGH PRESSURE light is on

Solution: The high side pressure switch has tripped; turn Valve 1 to EQUALIZE for a couple of seconds to reduce the high side pressure

Problem: COMPRESSOR switch is not on

Solution: Press the COMPRESSOR switch to ON

Compressor runs but does not move refrigerant

Problem: Valve 2 is not in the RECOVER position

Solution: Turn Valve 2 to RECOVER

Problem: The RECOVER light for Valve 2 is not illuminated

Solution: Toggle the Valve 2 switch to illuminate the RECOVER light

Problem: The ball valves on the hoses are not open

Solution: Open the ball valves

Problem: Valve 1 is in the EQUALIZE position

Solution: Turn Valve 1 to NORMAL

During recovery unit shuts off on high pressure

Problem: The refillable tank valves are not open

Solution: Open the tank valves

Problem: Valve 2 is not in the RECOVER position

Solution: Turn Valve 2 to RECOVER

Unit will not pull down to appropriate vacuum level

Problem: There is a leak in the A/C system

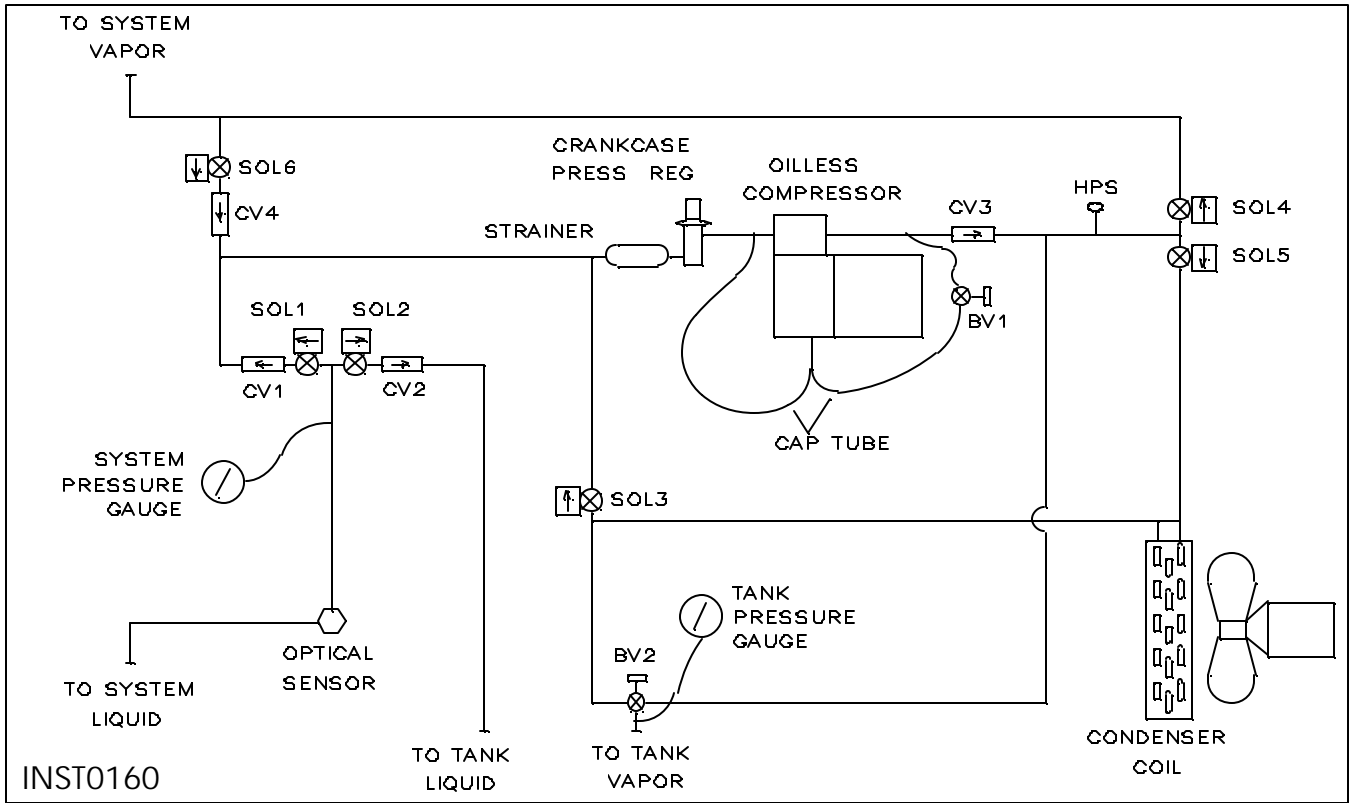
Solution: Fix the leak

Problem: Valve 1 is in the EQUALIZE position

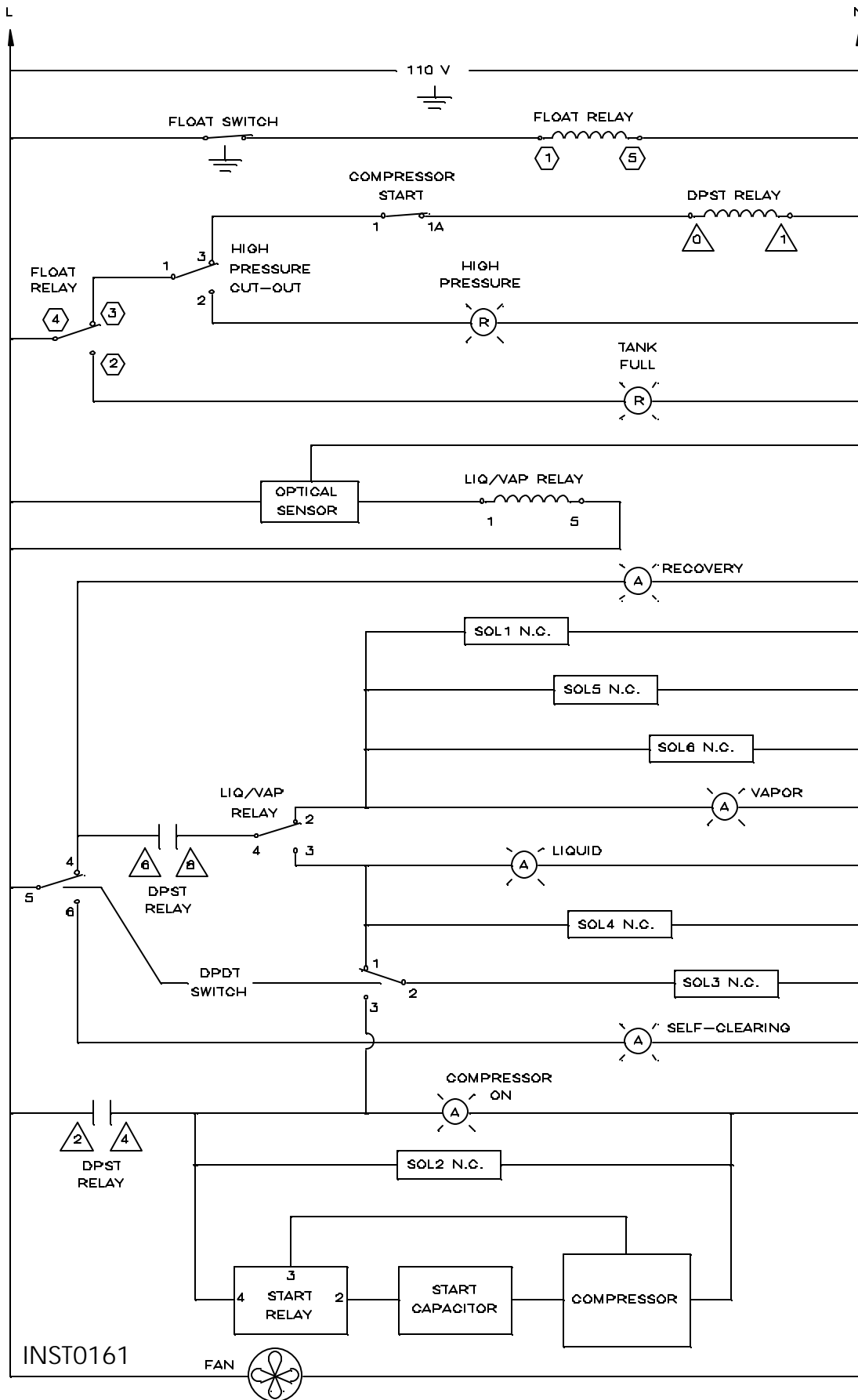
Solution: Turn Valve 1 to NORMAL

**TOLL-FREE
TECHNICAL SUPPORT LINE
1-800-822-5561
(United States and Canada)**

Flow Diagram



Wiring Diagram



This product is warranted to be free from defects in workmanship, materials, and components for a period of one year from date of purchase. All parts and labor required to repair defective products covered under the warranty will be at no charge.

The following restrictions apply:

1. The limited warranty applies to the original purchaser only.
2. The warranty applies to the product in normal usage situations only, as described in the Operating Manual. The product must also be serviced and maintained as specified.
3. If the product fails, it will be repaired or replaced at the option of the manufacturer.
4. Warranty service is provided by our network of authorized service centers. Call the toll-free Technical Support Line, (800) 822-5561, for service authorization and the location of the nearest service center. **Do not** ship or deliver units to a service center without authorization. **Do not** ship units to the factory.
5. Warranty service claims are subject to factory inspection for product defect(s). The factory or service center personnel are the sole determiners of warranty coverage.
6. The manufacturer shall not be responsible for any additional costs associated with a product failure including, but not limited to, loss of work time, loss of refrigerant, and unauthorized shipping and/or labor charges.
7. All warranty service claims must be made within the specified warranty period. Proof-of-purchase date must be supplied to the manufacturer.
8. Use of this recovery equipment with unauthorized refrigerants will void our warranty. Authorized refrigerants are listed on the equipment or are available through our Technical Service Department.

This Limited Warranty does not apply if:

- The product, or product part, is broken by accident.
- The product is misused, tampered with, or modified.
- The product is used for recovering any substance other than the specified refrigerant type.

For assistance in operating your Refrigerant Recovery Unit or for the location of the nearest authorized Service Center, call our toll-free Technical Support Line, 800-822-5561 (U. S. and Canada). In all other locations, contact your local distributor. To help us serve you better, please be prepared to provide the model number, serial number, and date of purchase.

SP^x

*Robinair Division
SPX Corporation*

ROBINAIR

*1224 Robinair Way
Montpelier, OH 43543-1933 USA
Phone 419-485-5561
FAX 419-485-8300*