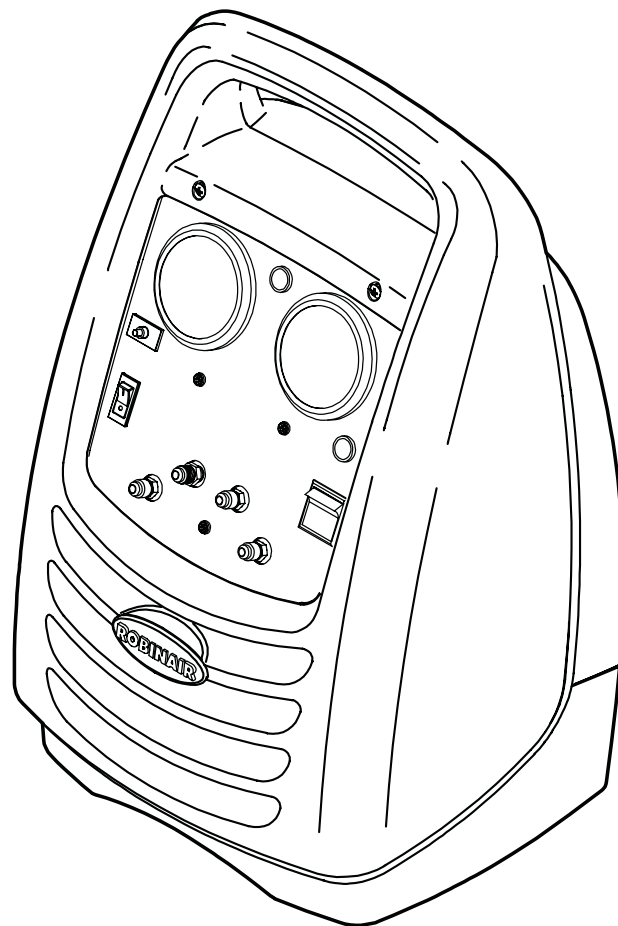


ROBINAIR[®]

AN SPX BRAND

Operating Manual



*Not for use in automotive
R-134a applications.*

Model 25201B
Refrigerant Recovery Unit

SAFETY DEFINITIONS: Follow all **WARNING**, **CAUTION**, **IMPORTANT**, and **NOTE** messages in this manual. These messages are defined as follows: **WARNING** means you may risk serious personal injury or death; **CAUTION** means you may risk personal injury, property damage, or unit damage; **IMPORTANT** means you may risk unit damage; and **NOTES** and **OPERATING TIPS** provide clarity and helpful information. These safety messages cover situations ROBINAIR is aware of. ROBINAIR cannot know, evaluate, and advise you as to all possible hazards. You must verify that conditions and procedures do not jeopardize your personal safety.

DISCLAIMER: Information, illustrations, and specifications contained in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without obligation to notify any person or organization of such revisions or changes. Further, ROBINAIR shall not be liable for errors contained herein or for incidental or consequential damages (including lost profits) in connection with the furnishing, performance, or use of this material. If necessary, obtain additional health and safety information from the appropriate government agencies and the vehicle, refrigerant, and lubricant manufacturers.

WARNINGS



ALLOW ONLY QUALIFIED PERSONNEL TO OPERATE THE UNIT. Before operating the unit, read and follow the instructions and warnings in this manual. The operator must be familiar with air conditioning and refrigeration systems, refrigerants, and the dangers of pressurized components. If the operator cannot read this manual, operating instructions and safety precautions must be read and discussed in the operator's native language.



PRESSURIZED TANK CONTAINS LIQUID REFRIGERANT. Do not overfill the internal storage vessel, because overfilling may cause explosion and personal injury or death. Do not recover refrigerants into nonrefillable containers; use only federally authorized refillable containers (DOT spec. 4BW or 4BA).



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



DO NOT BREATHE REFRIGERANT AND LUBRICANT VAPOR OR MIST. Exposure may cause personal injury, especially to the eyes, nose, throat, and lungs. Use the unit in locations with mechanical ventilation that provides at least four air changes per hour, or position the unit 18 inches above the floor. If accidental system discharge occurs, ventilate the work area before resuming service.



DO NOT USE AN EXTENSION CORD. An extension cord may overheat and cause fire. If you must use an extension cord, use the shortest possible cord with a minimum size of 14 AWG.

TO REDUCE THE RISK OF FIRE, do not use the unit in the vicinity of spilled or open containers of gasoline or other flammable substances.



DO NOT USE COMPRESSED AIR TO PRESSURE TEST OR LEAK TEST THE UNIT OR HVAC/R SYSTEM. Some mixtures of air and refrigerant are combustible at elevated pressures. These mixtures are potentially dangerous and may result in fire or explosion causing personal injury or property damage.

USE THIS UNIT WITH ONLY THE FOLLOWING REFRIGERANTS: R-12, R-22, R-134a, R-401A, R-401B, R-402A, R-402B, R-404A, R-407A, R-407B, R-407C, R-408A, R-409A, R-410A, R-500, R-502, R-507. The unit is designed to only recover refrigerant. Do not attempt to adapt the unit for refrigerant that is not in this list. Do not mix refrigerant types through a system or in the same container; mixing of refrigerants will cause severe damage to the unit and the air conditioning system.



HIGH VOLTAGE ELECTRICITY INSIDE THE UNIT HAS A RISK OF ELECTRICAL SHOCK. Exposure may cause personal injury. Disconnect the power before servicing the unit.

ADDITIONAL HEALTH AND SAFETY INFORMATION MAY BE OBTAINED FROM THE REFRIGERANT AND LUBRICANT MANUFACTURERS.

This equipment has been certified by ARI to meet the EPA minimum requirements for recovery equipment intended for use with all HCFC appliances and other high pressure appliances.

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

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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.

Setup Instructions

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 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 light switching and hear the solenoids opening and closing. This is normal and does not affect the unit or its operation.

SET-UP INSTRUCTIONS

The unit comes with four 60-inch 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.

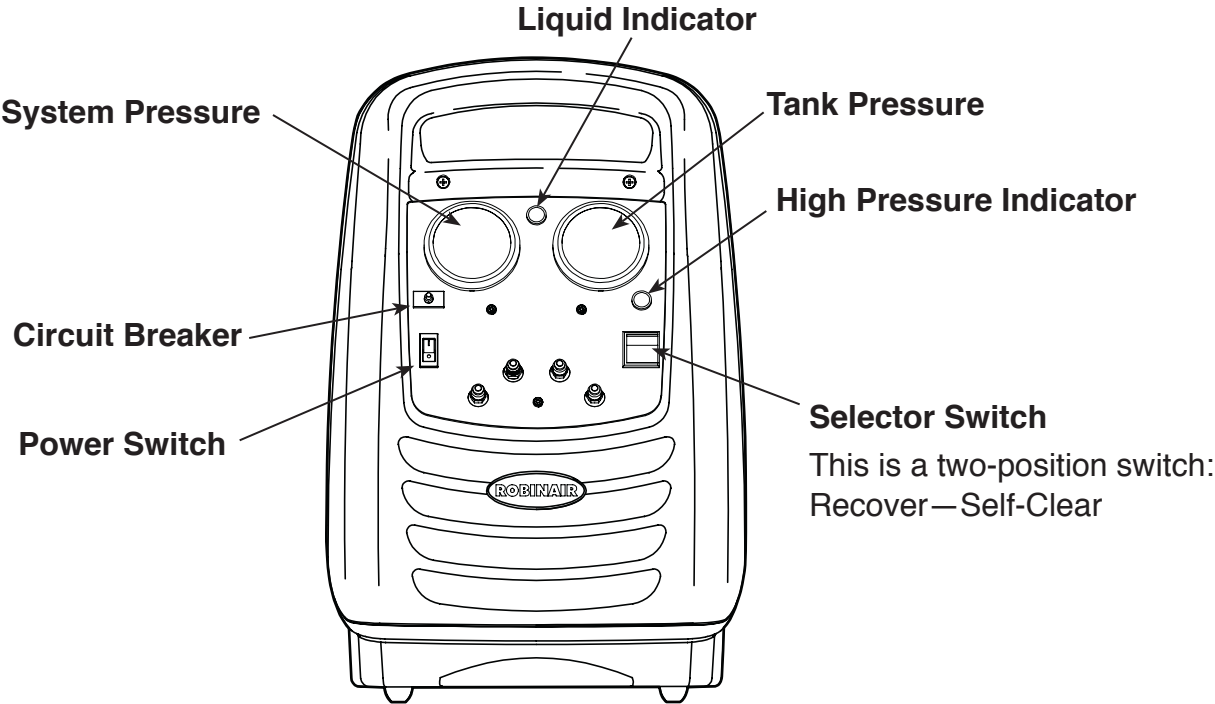
CAUTION: To prevent personal injury, all valves on hoses must be in the closed position before making connections.

1. Connect the hoses as follows:

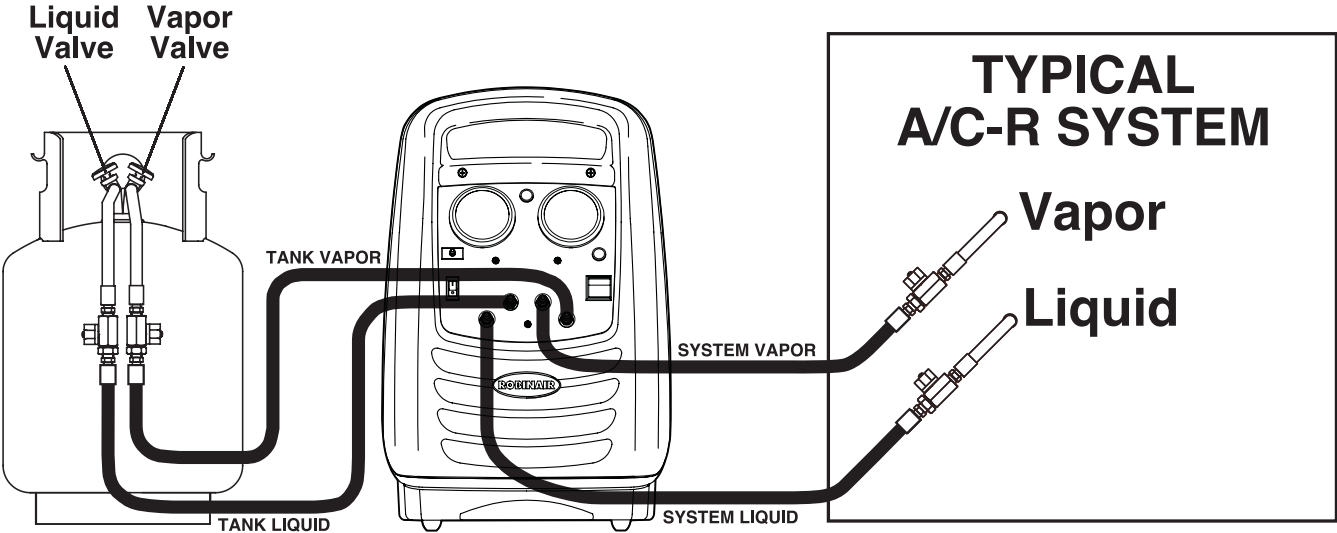
Hose	Connect Standard End To:	Connect Ball Valve End To:
Blue Hose	TANK LIQUID fitting on unit	LIQUID port on tank
Red Hose	TANK VAPOR fitting on unit	VAPOR port on tank
Blue Hose	SYSTEM VAPOR fitting on unit	SYSTEM VAPOR port
Red Hose	SYSTEM LIQUID fitting on unit	SYSTEM LIQUID port

2. Plug the unit into a correct voltage electrical outlet. The fan starts running immediately and the unit is ready for operation.

Setup Instructions



Front View of Unit



Hose Connections

Operating Instructions

RECOVERY PROCEDURE



WARNING



To prevent personal injury,

Read and follow all warnings at the beginning of this manual before operating the unit. Wear safety goggles when working with refrigerants. Use only authorized refillable refrigerant tanks.

Disconnect hoses using extreme caution. All hoses may contain refrigerant under pressure.

1. Connect hoses as described in the *Setup Instructions*.
2. Open the LIQUID and VAPOR valves on the recovery tank. Open the ball valves on all four hoses.

NOTE: To prevent overfilling, monitor the tank capacity/weight during recovery. During liquid recovery, refrigerant transfers rapidly. Monitor tank weight using the appropriate weight scale.

3. Look at the system pressure gauge on the unit to confirm 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. Press selector switch to RECOVER. Turn power switch ON.

A float chamber monitors the refrigerant being recovered and automatically adjusts the unit to handle either liquid or vapor refrigerant. This provides for the most efficient recovery. The amber light on the control panel indicates when liquid is entering the unit.

5. The blue gauge labeled SYSTEM PRESSURE shows the current system pressure throughout the recovery process. When the system pressure reaches an adequate vacuum level, turn the power switch OFF.

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

TANK CAPACITY CHART

Refrigerants	30 lb. Tank	50 lb. Tank
R-12	22 lbs.	40 lbs.
R-22	22 lbs.	40 lbs.
R-134a	22 lbs.	41 lbs.
R-407C	21 lbs.	39 lbs.
R-410A	19 lbs.	36 lbs.



WARNING



The refrigerant level in the tank must not exceed 80% of the tank volume. Failure to monitor the level could result in excessive hydrostatic pressures, causing physical injury or death.

TANK-TO-TANK TRANSFER

When 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 the refrigerant from. Confirm 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 in the following manner.

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

2. Follow Steps 1 through 5 in the *Recovery Procedure* on the previous page.
NOTE: Remember to monitor tank weight.

HIGH PRESSURE

If, during the recovery or self-clearing process, the HIGH PRESSURE light comes on, verify all appropriate valves are open. If the valves are open and the light is still on, there is an excessive amount of air or the tank is full. Follow these steps:

1. Press the power 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 and the blue hose from the refillable tank.
4. Replace this tank with an empty refillable tank.
5. Reconnect the hoses as described in the *Setup Instructions*. Then follow the steps in either the *Recovery Procedure* or the *Self-Clearing Procedure*.

Operating Instructions

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. Verify 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. Press the selector switch to SELF-CLEAR. Turn the power switch ON. You will hear the compressor start.
5. Let the compressor run until the system pressure gauge reaches the appropriate vacuum level. The system pressure gauge will return to VACUUM. Press the power switch to OFF. Unplug the unit from the electrical source.
6. Close the red VAPOR valve on the tank and the ball valve on the red TANK VAPOR hose. Disconnect the TANK VAPOR hose from the tank.



WARNING



To prevent personal injury, disconnect hoses using extreme caution. All hoses may contain refrigerant under pressure.

7. 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.

This unit has been designed for minimal maintenance. The compressor should be evaluated for wear after 2,500 hours of use.

REPLACEMENT PARTS

System Pressure Gauge	551196
Tank Pressure Gauge	551197
Selector Switch	117684
High Pressure Cut-Out	19720
Ball Valve Hose—60" Red	65360
Ball Valve Hose—60" Blue	65260
Compressor	19706
Indicator Light, Red	111031
Indicator Light, Amber	111032
Fan	110074
Float Chamber	19685
Relay Board	19703
Case Bottom	121840
Case Back	121839
Case Front	121838
Power Switch	112341

CAUTION!

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

Troubleshooting Tips

Compressor does not start

Problem: Compressor circuit breaker has tripped.

Solution: *Depress the circuit breaker switch.*

Problem: HIGH PRESSURE light is ON.

Solution: *The high side pressure switch has tripped; verify the tank and hose ball valves are open. Check tank and verify it is not full.*

Problem: Power switch is not ON.

Solution: *Press the power switch to ON.*

Compressor runs but does not move refrigerant

Problem: The ball valves on the hoses are not open.

Solution: *Open the ball valves.*

Problem: The tank valves are not open.

Solution: *Open the valves.*

During recovery, unit shuts off on high pressure

Problem: The refillable tank valves are not open.

Solution: *Open the tank valves.*

Problem: Valves on hoses are shut.

Solution: *Open valves.*

Unit will not pull down to appropriate vacuum level

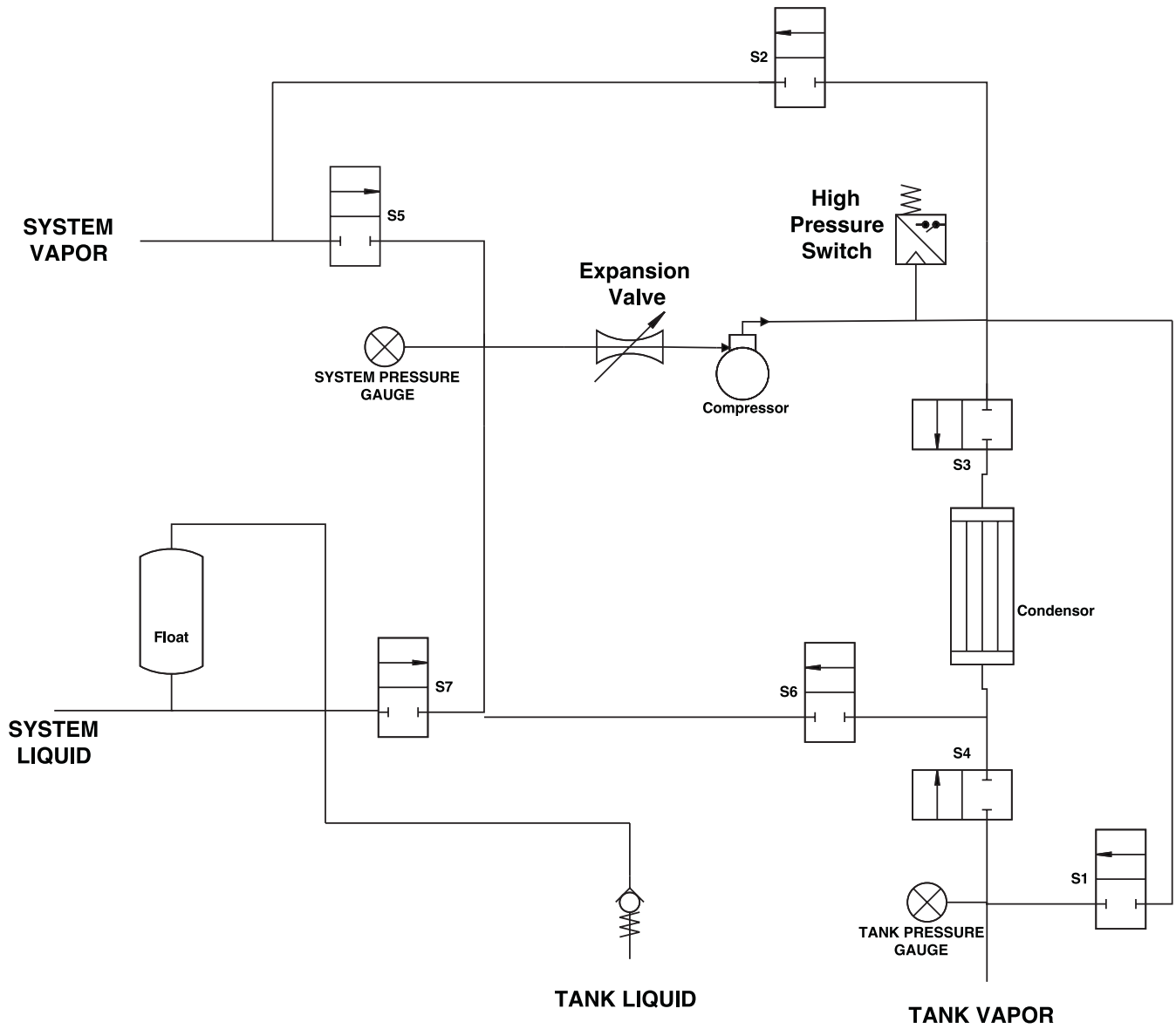
Problem: There is a leak in the A/C system.

Solution: *Fix the leak.*

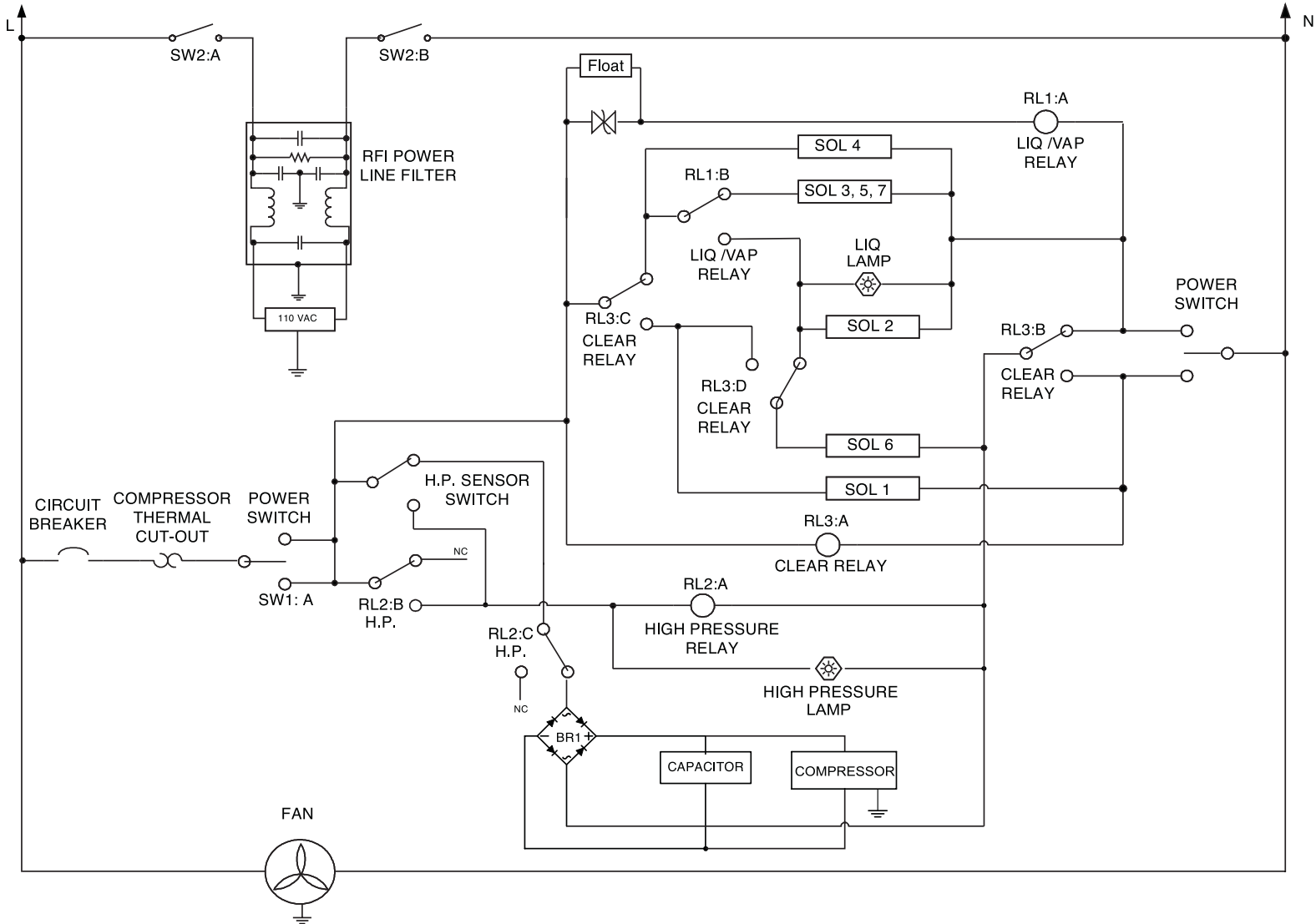
Problem: Trapped pockets of refrigerant.

Solution: *Allow system to stabilize then heat with a heat gun.*

Flow Diagram



Wiring Diagram



CONVERSION TABLE

OZ.	LBS.
0.5	0.03
1.0	0.06
1.5	0.09
2.0	0.13
2.5	0.16
3.0	0.19
3.5	0.22
4.0	0.25
4.5	0.28
5.0	0.31
5.5	0.34
6.0	0.38
6.5	0.41
7.0	0.44
7.5	0.47
8.0	0.50
8.5	0.53
9.0	0.56
9.5	0.59
10.0	0.63
10.5	0.66
11.0	0.69
11.5	0.72
12.0	0.75
12.5	0.78
13.0	0.81
13.5	0.84
14.0	0.88
14.5	0.91
15.0	0.94
15.5	0.97
16.0	1 lb.