
ROBINAIR

OPERATING MANUAL

Mod 17600 B
S/N 02535
DATE Code 1094

Al Equip Siks

815-479-5740
CRYSTAL LAKE



Refrigerant Recovery/Recharging Unit

Models 17600A and 17601A

For recovery and recharging
R-12, R-22, R-500 and R-502

LISTED



80S2

Refrigerant Recovery
Equipment

ROBINAIR

Refrigerant Recovery
and Recharging Station

Model: 17600A
Volts: 115V 60Hz Amps: 11.5
Refrigerants: R-12,
R-22, R-500 and R-502
DESIGN PRESSURE: High-467 psig Low-230 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 authorized refillable refrigerant tanks. This includes tank model 17506, which must be secured in place on the strain gauge platform. 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. Do not transport unit with tank on scale platform.

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 instruction manual.

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

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

ATTENTION!

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

ATTENTION. Débrancher avant la maintenance.

ATTENTION. Pour réduire les risques d'incendie, ne pas utiliser de cordon prolongateur de section inférieure à 14 AWG de façon à éviter la surchauffe du cordon.

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

OPERATING NOTES

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

U.S. PATS: 4,261,178; 4,688,388; 4,768,347; 4,878,356; 4,938,031; 5,005,375; 5,046,322 Re 33,212; 5,095,713
OTHER U.S. AND FOREIGN PATENTS PENDING. Mfd. by Robinair Division, SPX Corporation, Montpelier, OH 43543

Glossary of Terms

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

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The Model 17600A Refrigerant Recovery/Recharging Unit is a portable station for recovering and recharging multiple refrigerants. It allows you to recover and recharge at the job site with only one hook-up, and it automatically adjusts to either vapor or liquid for efficient recovery.

Microprocessor controls make recharging fast and accurate, and a self-purge feature makes it simple to change refrigerant types.

A built-in electronic scale accurately measures the amount of refrigerant recovered from the A/C-R system and provides valuable diagnostic information. It also allows you to monitor and record the actual amount of refrigerant charged into the A/C-R system.

Introduction

Operating Guidelines

The drawing below illustrates the major components of the Refrigerant Recovery/Recharging Unit. Familiarize yourself with these components before attempting to operate the unit.

Before performing any of the operating procedures explained in this manual, please note the following guidelines to ensure that your unit runs as efficiently and trouble-free as possible.

You must maintain voltage to the unit at $\pm 10\%$ of the voltage specified on the unit's nameplate. Any extension cord used must be a minimum of 14AWG.

The recommended operating temperature range is 50°F to 105°F. The unit operates at temperatures outside this range, but it may not perform to specifications.

The system oil separator can hold approximately 25 ounces of oil before it needs to be drained. If, after starting the unit, you suspect that the oil level in the separator is reaching this level, stop the unit and drain the separator. Repeat as often as necessary.

After completing the recovery process, you *must* drain the system oil separator *before* transporting the base unit.

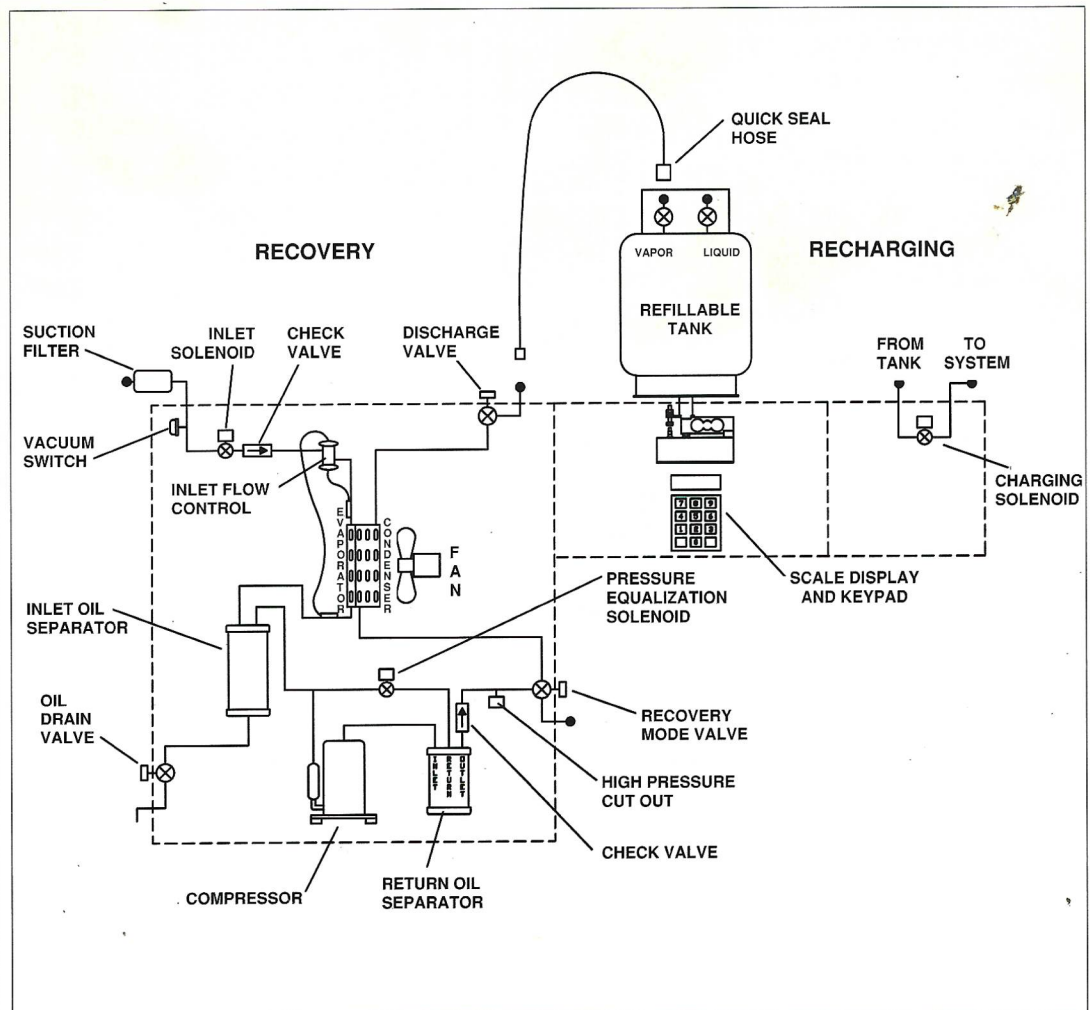


Diagram of Major Components

In addition to the number keys, the keypad contains special keys that control specific operating functions.

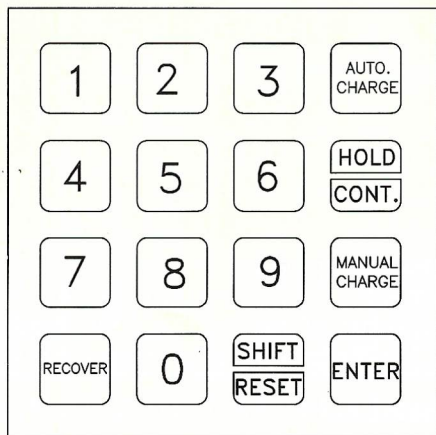


Diagram of Keypad

- **RECOVER**—Activates the recovery sequence.
- **SHIFT/RESET**—Activates “shifted” positions of keys on the keypad and resets the program mode.
- **AUTO CHG**—Automatically charges the A/C-R system with the programmed amount of refrigerant.
- **HOLD/CONT**—Interrupts the automatic cycle in the HOLD position, and then resumes functions in the CONT position. Press this button once for HOLD, and again for CONT.
- **MANUAL CHG**—Allows you to manually charge the A/C-R system with refrigerant.
- **ENTER**—Enters programmed data into the unit’s control memory.

Using the Keypad

This section explains the messages shown on the digital display above the keypad. When you first turn on the unit, the message “GO” displays above the keypad. From this point you can access any operating mode.

Segment A—Indicates in which mode the unit is operating:

PROGRAM—The unit is in the programming mode, which allows you to program the amount of refrigerant to recharge.

HOLD—This mode is used while changing a refrigerant tank or to interrupt the recovery or recharging cycles.

AUTOMATIC—Indicates that the unit is running in a given cycle and will automatically stop when the cycle is complete.

Segment B—Indicates that the unit is either recovering or recharging refrigerant **or** that the unit is ready to be programmed for one of these functions:

CHARGE

- With only the LBS or KG message displayed, indicates that the unit is in the manual charging mode. Press and hold the MANUAL CHG button on the keypad to open the charging solenoid and charge the A/C-R system. Release the button to close the solenoid and stop the flow of refrigerant.

Using the Digital Display

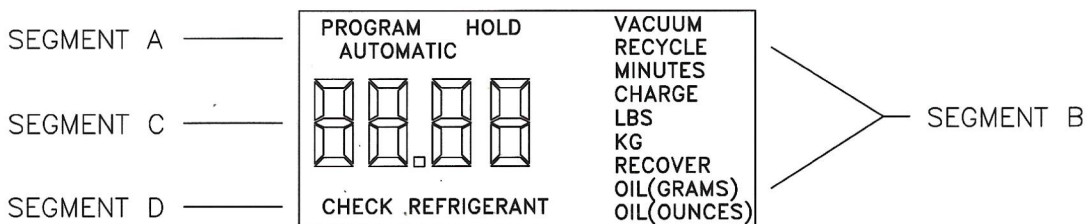


Diagram of Digital Display

CHARGE	+	LBS or KG	=	Manual charge mode
CHARGE	+	PROGRAM	=	Automatic charge mode; program unit
CHARGE	+	AUTOMATIC	=	Unit is charging A/C system
CHARGE	+	HOLD	=	Interrupted charging cycle
RECOVER	+	AUTOMATIC	=	Unit is recovering refrigerant

Quick Reference Chart

- With PROGRAM, indicates that the unit is in the automatic charging mode and ready to be programmed for the amount of refrigerant to be charged into the A/C-R system. On the keypad enter the charge in pounds and hundredths of a pound or kilograms, depending on the model you have.
- With AUTOMATIC, indicates the unit is charging refrigerant into the A/C-R system; the number shown on the digital display counts down, showing the remaining amount of refrigerant to be dispensed.
- With HOLD, indicates that HOLD/CONT was pressed to interrupt the charging cycle; the number shown on the digital display is the amount of refrigerant remaining to be charged into the A/C-R system; to continue charging, press HOLD/CONT again.

RECOVER

- With AUTOMATIC, indicates the unit is recovering refrigerant from the A/C-R system and shows the amount of refrigerant recovered in pounds or kilograms, depending on the model you have.

OIL(OUNCES) OR OIL(GRAMS)

- Lights up as a reminder to drain the oil separator after each job.

Use the chart above as a quick reference for interpreting Segment B messages.

Segment C—Shows a number or a coded error message on the digital display that indicates the unit's operating status or any specific problems.

NUMBER

Indicates the charging time in minutes or the refrigerant weight in pounds or kilograms, depending on the model you have.

ERROR CODES

- CAL—Unit will not operate until the scale is calibrated; see instructions in "Calibrating the Scale."
- CPL—Complete; cycle process is finished.
- FULL—Refrigerant recovery tank is full.
- HI-P—High pressure, system pressure is above 350 psi.
- SCAL—Scale problem; scale may be broken or disconnected, or tank weight has exceeded 80 pounds.
- 99LB—The unit cannot recover more than 99 pounds of refrigerant; reset the unit.

Segment D—The message "CHECK REFRIGERANT" indicates that refrigerant is low—approximately six pounds (or 2.7 kg) of refrigerant is left in the tank. If the tank is low, either replace the tank or add refrigerant following the instructions in "Adding Refrigerant to the Tank."

⚠ WARNING ⚠

USE ONLY AUTHORIZED 50-LB. (23 KG) REFILLABLE REFRIGERANT TANKS (Part No. 17506) BECAUSE THEY ARE AN INTEGRAL PART OF THE UNIT. USE OF OTHER TANKS COULD CAUSE PERSONAL INJURY AND WILL VOID THE WARRANTY.

DISCONNECT HOSES WITH EXTREME CAUTION! ALL HOSES MAY CONTAIN LIQUID REFRIGERANT UNDER PRESSURE. CONTACT WITH REFRIGERANT MAY CAUSE INJURY. WEAR PROPER PERSONAL PROTECTIVE EQUIPMENT, INCLUDING SAFETY GOGGLES.

CAUTION! DO NOT MIX REFRIGERANT TYPES! This recovery/recharging unit will not separate different refrigerant types (R-12, R-22, R-500 or R-502). Make sure you know the refrigerant type in the A/C-R system and in the tank. Do not return tanks to the factory.

IMPORTANT! Be sure to indicate on the outside of the tank the refrigerant type contained in the tank (R-12, R-22, R-500 or R-502).

INSTALLING A NEW TANK

1. The first step in installing a refrigerant tank depends on the type of tank you have:

- *New Refillable Tank* — Open the tank's VAPOR valve to release the 10 to 15 psi dry nitrogen charge, then proceed to Step 2.
 - *Empty Previously-Used Refillable Tank* — Proceed to Step 2.
 - *Partially-Filled Refillable Tank* — Proceed to Step 3.
2. Using a vacuum pump, pull a vacuum on the tank for approximately five minutes to remove any air in the tank. Be sure to close the tank's VAPOR valve before shutting off the vacuum pump to prevent air from leaking back into the tank.
 3. For an initial set-up or if the unit has been opened to atmosphere, attach a vacuum pump to the unit's DISCHARGE valve, and turn the DISCHARGE valve to "Open." Be sure the RECOVERY MODE valve is turned to "Normal" and the OIL DRAIN valve is turned to "Close." These valves and their locations on the front panel of the unit are illustrated below.
 4. Pull a vacuum for approximately five minutes. Be sure to turn the DISCHARGE valve to "Close" before turning off the pump to prevent air from leaking back into the unit.

Installing or Replacing a Refrigerant Tank

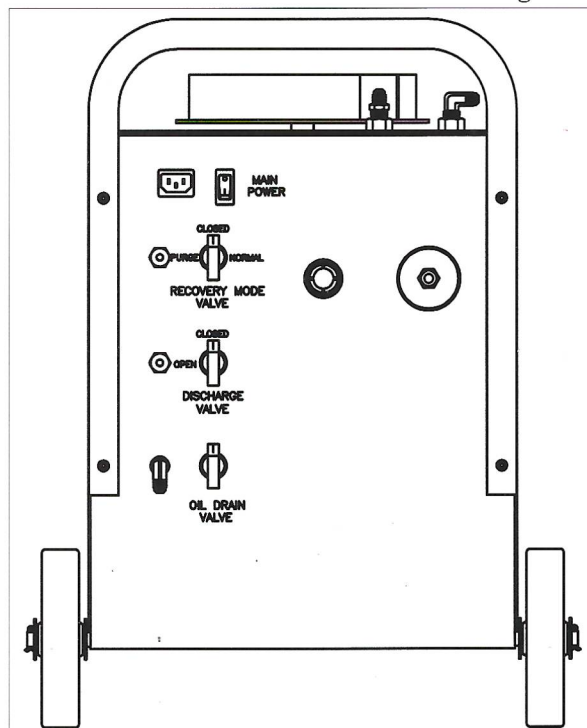


Diagram of Unit's Front Panel

Changing Refrigerant Types

REPLACING A FULL TANK

When a tank is full, the unit shuts off and shows "FULL" on the digital display. Follow these steps to change tanks.

1. Close the tank's VAPOR valve, and close the DISCHARGE valve on the front panel of the unit.
2. Disconnect the Quick Seal™ hose from the tank.
3. Replace the full tank with an empty one. **Do not mix refrigerants!**
4. Connect the Quick Seal™ hose to the tank's VAPOR valve.
5. Open the tank's VAPOR valve, and open the DISCHARGE valve on the front panel of the unit.
6. Press the HOLD/CONT key on the keypad to resume the recovery operation.

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IMPORTANT! Be sure to indicate on the outside of the tank the refrigerant type contained in the tank (R-12, R-22, R-500 or R-502).

1. Close the tank's VAPOR valve, and turn the DISCHARGE valve to "Close" on the front panel of the unit.
2. Disconnect the red Quick Seal™ hose from the tank's VAPOR valve, and connect it to the inlet filter on the front panel of the unit.
3. Connect one end of the 36" red hose with standard fittings to the tank's VAPOR valve, and connect the other end to the RECOVERY MODE fitting on the front panel of the unit.

4. Open the tank's VAPOR valve, and turn the unit's DISCHARGE valve to "Open." Leave the RECOVERY MODE valve at "Normal."
5. Turn on the MAIN POWER switch on the front panel of the unit. Wait three to five seconds, then turn the unit's RECOVERY MODE valve to "Purge." The unit automatically shuts off when the purge procedure is complete.
6. Close the tank's VAPOR valve, and turn the unit's DISCHARGE valve to "Close."
7. Turn the unit's RECOVERY MODE valve to "Close."
8. Disconnect both ends of the standard red hose from the tank's VAPOR valve and from the unit's RECOVERY MODE fitting.
9. Slowly turn the unit's RECOVERY MODE valve to "Purge."
10. When the pressure equalizes (no more vapor is being released), turn the unit's RECOVERY MODE valve to "Normal."

The unit is now ready for use.

Note: Under certain conditions, including unusually high ambient temperatures, the unit may shut down due to high pressure before purging is complete. If this occurs, the "HI-P" message will display. Wait for the tank to cool **or** switch to an empty or partially-filled tank of the same refrigerant type in order to complete the purge procedure. Then follow the steps above to replace the tank.

Follow these steps to properly operate your unit and recover refrigerant.

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CAUTION! DO NOT MIX REFRIGERANT TYPES! This recovery/recharging unit will not separate different refrigerant types (R-12, R-22, R-500 or R-502). Make sure you know the refrigerant type in the A/C-R system and in the tank. Do not return tanks to the factory.

IMPORTANT! Be sure the unit is set up for the refrigerant type you are about to recover. If it is not, see "Changing Refrigerant Types."

Note: Run the A/C-R system for a few minutes before starting the refrigerant recovery process. Tests show more refrigerant is recovered if this action is taken. Turn the A/C-R system off before proceeding.

TO CONNECT THE HOSES

Follow these steps to attach hoses to the unit.

1. Attach a manifold gauge set to the A/C-R system, then attach the center hose of the manifold to the inlet filter on the front panel of the unit.

Note: Be sure the A/C-R system has pressure in it before starting the recovery process. If there is no system pressure, there is no refrigerant in the system to recover.

2. Open both valves of the manifold gauge set, and purge the air from the center hose of the manifold by slightly loosening the knurled nut of the center hose.

3. Place an authorized 50-pound (23 kg) refillable tank on the scale platform.
4. Attach the Quick Seal™ (large) end of the red hose supplied with the unit to the tank's VAPOR valve, and attach the other end of the hose to the DISCHARGE fitting on the front panel of the unit.
5. Turn the RECOVERY MODE valve to "Normal" on the front panel of the unit.
6. Open the tank's VAPOR valve, and turn the DISCHARGE valve to "Open" on the front panel of the unit.

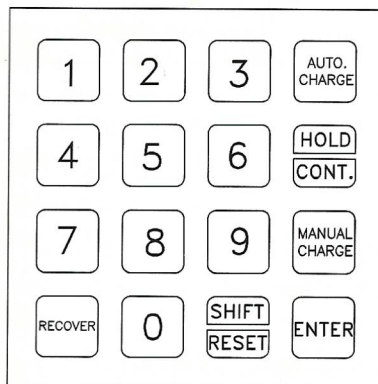
TO RECOVER REFRIGERANT

Follow these steps to properly operate your unit and recover refrigerant.

1. Plug the unit into the proper voltage AC outlet, then turn on the MAIN POWER switch on the front panel of the unit.

Note: While in the recovery mode, HOLD/CONT and SHIFT/RESET are the only two keys active. After you press HOLD/CONT, pressing any other key toggles the message display between the amount of refrigerant recovered and the length of time of recovery. Press HOLD/CONT again to resume recovery, or press SHIFT/RESET to exit the recovery mode.

Recovering Refrigerant



The Recover Mode

Recharging the A/C-R System

2. Press the RECOVERY key on the keypad. The display shows that the unit is in the RECOVER mode and the AUTOMATIC cycle. After the compressor starts, the display also shows the amount of refrigerant (in pounds or kilograms depending on the model you have) being recovered. The compressor shuts off automatically when recovery is complete (at approximately 4 in. Hg), and the display shows the message "CPL" and flashes the amount (in pounds or kilograms depending on the model you have) of refrigerant recovered.

Note: To protect against overfilling the tank, the scale is programmed to shut off automatically when a 50-pound (23 kg) refrigerant tank is filled to 80% capacity. When you place a tank on the scale, the unit automatically calculates the weight of the tank and any refrigerant in the tank before it "zeroes out" the display. Then you can monitor the amount of refrigerant being recovered, and the scale will automatically stop the recovery process when the tank reaches the programmed limit.

3. Wait for five (5) minutes and watch the manifold gauges for a rise in pressure above "0." If a rise occurs, press the HOLD/CONT key.

Repeat as needed until the system pressure holds for two (2) minutes.

4. Close the manifold valves, the tank's VAPOR valve, and the DISCHARGE valve, then disconnect the hoses from the unit.

IMPORTANT! Drain the oil separator after each job. The display will indicate "OIL/(OUNCES)" or "OIL(GRAMS)" as a reminder.

5. Slowly open the OIL DRAIN valve and drain the oil into the oil catch bottle. When all the recovered oil has been completely drained, close the valve.

IMPORTANT! The oil lost from the A/C-R system during the recovery process must be replaced with *new oil* as part of A/C-R system recharging. After each refrigerant recovery procedure, measure the amount of oil in the oil catch bottle. Add the same amount of *new compressor oil* to the system, following the manufacturer's recommendations. Be sure to dispose of recovered oil in an appropriate manner.

6. When the recovery tank is full, the unit's controls shut off the compressor, and the digital display shows the message "FULL."

To change tanks, follow the steps outlined in "Replacing a Full Tank."

▲ WARNING ▲

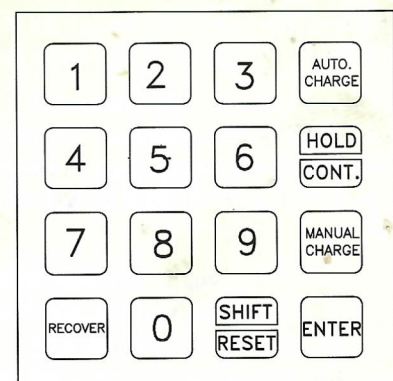
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CAUTION! DO NOT MIX REFRIGERANT TYPES! Make sure you know the refrigerant type in the A/C-R system and in the tank.

TO CONNECT THE HOSES

Follow these steps to attach hoses to the unit.

1. Place a refrigerant tank on the unit's scale platform.



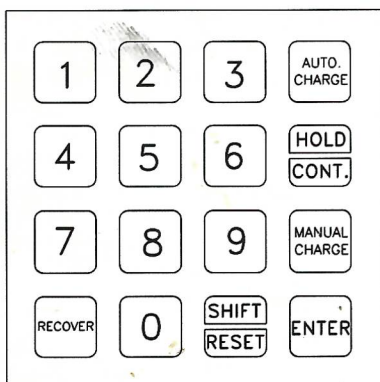
The Automatic Charging Mode

2. Connect the Quick Seal™ (large) end of the blue hose supplied with the unit to the RECHARGING PORT fitting on the unit labeled "From Tank." Connect the other end of this hose to the tank's LIQUID valve.
3. Connect the center hose of a manifold gauge set to the RECHARGING PORT fitting on the unit labeled "To System." Connect the manifold to the A/C-R system in the normal manner.
4. Open the tank's LIQUID valve, and turn on the MAIN POWER switch.

TO CHARGE AUTOMATICALLY

When recharging the A/C-R system, you can enter the amount of refrigerant to be recharged when you turn on the unit, and the unit stores this value in memory until you turn the unit off.

1. Open the appropriate valves on the manifold to allow refrigerant to enter the A/C-R system.
2. Press the AUTO CHG key to enter the PROGRAM mode. The digital display shows the messages "PROGRAM" and "CHARGE."
3. Enter the amount of refrigerant required to recharge the A/C-R system by pressing the appropriate number keys and then the ENTER key on the keypad.



The Manual Charging Mode

4. Press the AUTO CHG key on the keypad. The digital display shows the message "AUTOMATIC" and shows the amount of refrigerant you've programmed for recharge. The display counts down to zero as charging proceeds, then indicates the end of the charging process by showing the message "CPL."
5. Close the manifold valves and the tank's LIQUID valve before disconnecting hoses.

Follow the manufacturer's instructions for the correct charging procedure. If you need to change refrigerant tanks or pause during recharging for any reason, press HOLD/CONT on the keypad. To resume recharging, press HOLD/CONT again.

When the charge is complete, the solenoid controlling the transfer of refrigerant closes, an audible signal beeps, and the display above the keypad flashes "CPL."

TO CHARGE MANUALLY

▲ WARNING ▲

TO AVOID AN UNCONTROLLED RELEASE OF REFRIGERANT, be sure that a charging line is properly attached between the manifold gauge set and the solenoid outlet fitting before pressing the MANUAL CHG button on the keypad. Pressing MANUAL CHG will immediately supply refrigerant pressure to the outlet fitting.

1. Press the MANUAL CHG button on the keypad to access the manual charging mode and clear the digital display.
2. Now press and hold the MANUAL CHG button. The charging solenoid opens, and the digital display shows the weight of the refrigerant as it is being charged. The solenoid will remain open as long as you depress the MANUAL CHG button.
3. To close the solenoid and stop the flow of refrigerant, release the MANUAL CHG button.
4. To exit the manual charging mode, press SHIFT/RESET on the keypad.
5. Close the manifold valves and the tank's LIQUID valve before disconnecting hoses.

Maintenance Instructions

Your recovery/recharging unit has been designed for ease of use. However, you should periodically replace the inlet filter, which removes particulates from the refrigerant as it is recovered from the A/C-R system. You should also routinely check the accuracy of the scale platform and calibrate the scale, if necessary, to assure that the compressor shuts off when the tank is full.

REPLACING THE INLET FILTER

You should replace the inlet filter each time you have recovered 200 pounds of refrigerant. You may need to replace inlet filters more frequently if the refrigerant being recovered contains unusually high quantities of particulates. See the "Replacement Parts List" for the correct replacement inlet filter.

CHECKING THE SCALE ACCURACY

To ensure continued charging accuracy, check your scale using these procedures every thirty (30) days or 100 service jobs, whichever comes first.

1. While in the PROGRAM mode, simultaneously press the SHIFT/RESET and ENTER keys on the keypad to enter the diagnostic mode and clear the digital display.
2. Press the "6" key on the keypad to display the approximate scale platform weight.
3. Remove the tank from the scale platform. The empty platform weight displayed should range from ± 2 pounds; if it does not, contact the factory. The "CHECK REFRIGERANT" message will also display.

In the example below, the empty platform weight is approximate; actual platform weights will vary.

Action Taken	Display Reads
Remove refrigerant tank	1.50 lbs.
Add 12.0 lbs.	13.50 lbs.
Add 13.0 lbs.	26.50 lbs.
Subtract 13.50 lbs. from 26.50 lbs. to get the last weight added to the scale platform.	

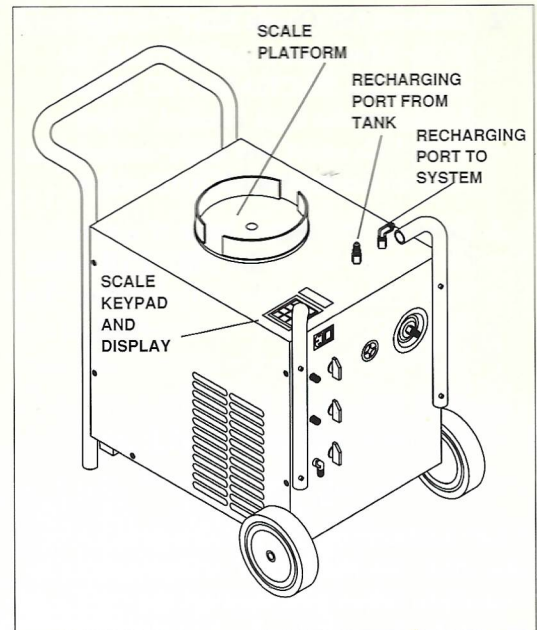


Diagram of Scale Platform and Top Panel

4. Place a weight of at least ten pounds on the center of the scale platform, and note the display reading. Record the reading.
5. Place an additional known weight of less than 20 pounds on the scale platform. Record this reading. Subtract the first reading from the second reading. The difference should be ± 5 percent of the additional weight. If it is not, calibrate the scale (following the instructions below), or contact the factory.

CALIBRATING THE SCALE

This recovery/recharging unit features an automatic calibration mode. You can automatically calibrate the scale through the keypad.

1. Press SHIFT/RESET and ENTER on the keypad to access the diagnostic mode, then press 8-7-8-7. The display will show "A1."

Note: If you press any other key before the 8-7-8-7 sequence, you will not be able to enter the automatic calibration mode.

2. Be sure the scale is empty of all weight (e.g. tank). Press "0" and then press ENTER on the keypad. The display shows "0.00" and then changes to the message "A2."

3. Place a known weight (between 10 and 80 pounds) in the center of the platform. Enter that weight on the display using the keypad, then press ENTER. The display returns to the VACUUM mode.
4. Press the SHIFT/RESET key, and then press ENTER on the keypad. Press "6," and the display shows the known weight on the scale platform.
5. Remove the known weight, and the display returns to "0.00."

USING MANUAL DIAGNOSTICS

This unit has internal and manual diagnostic modes. The internal or self-diagnostic mode checks for entries or pressures outside of normal limits and for certain electrical conditions. The manual diagnostic mode allows you to check major components for proper operation.

The unit's safety features include a check valve which prevents high side pressure from entering the refrigerant tank. Also, any operating problems resulting in an error message on the display prevent operation until the problem is corrected.

▲ WARNING ▲

BE SURE TO DISCHARGE ANY SYSTEM PRESSURE BEFORE PERFORMING ANY MANUAL DIAGNOSTICS.

1. If the message "GO" is not displayed, press the SHIFT/RESET key on the keypad.
2. Simultaneously press the ENTER and zero keys. The display should be blank except for the decimal point.
3. Press the following keys to perform these functions:

Press "1"—Displays the length of time of the last recovery job.

Press "2"—Displays the amount of refrigerant recovered during the last recovery job.

Press "3"—Display shows "CON(version) LBS." To switch the display to kilograms ("CON KG"), press "3" again, followed by the ENTER key.

Press "5"—All display segments light up.

Press "6"—The display shows the approximate weight on the scale. See "Checking the Scale Accuracy" for diagnostic procedures.

4. Press the SHIFT/RESET key to exit the diagnostics mode.

The following is a list of replacement parts you may need to service or maintain your recovery/recharging unit.

The 50-pound (23 kg) refillable refrigerant tank (part no. 17506) is the only tank you should use with this recovery/recharging unit. The overfill limitation mechanism has been calibrated specifically for use with this unit and meets DOT specification 4BW or 4BA.

Component	60 Hz	50 Hz
	115-Volt	220-Volt
50-Pound Refillable Refrigerant Tank	17506	17506
Inlet Filter	17630	17630
Compressor	RA19016	RA19017
36" Red Hose with Quick-Seal™ fitting	68336	68336
36" Blue Hose with Quick-Seal™ fitting	68236	68236
36" Red Standard Hose	38036	38036
Red Panel Light	RA17106	RA17136
Amber Panel Light	RA17107	RA17137
Check Valve	RA17112	RA17112
Fan	RA19011	RA19012
Inlet Solenoid	RA19013	RA19014
Pressure Equalization Solenoid	RA17522	RA19022

Design, specifications, and material are subject to change without notice.

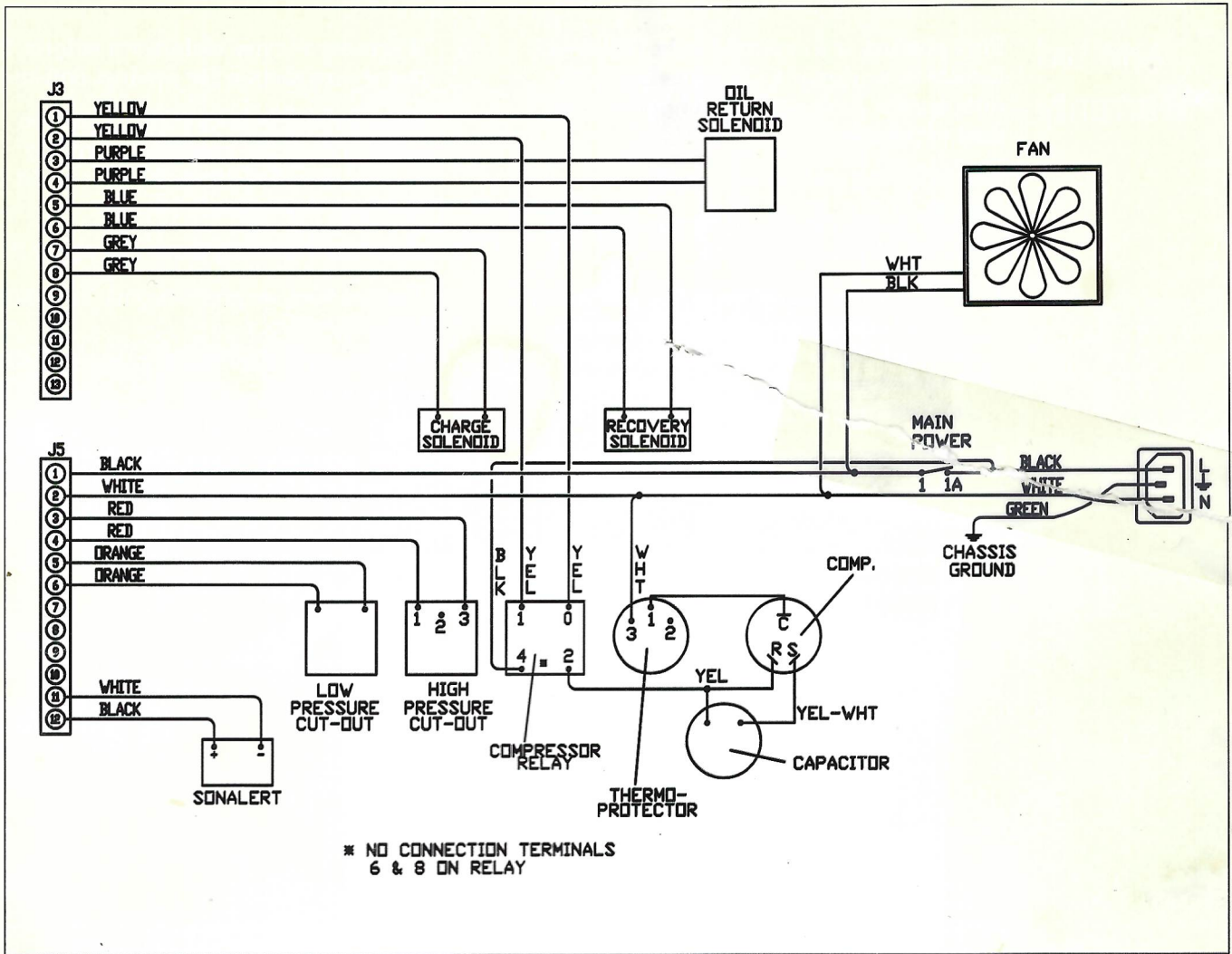
Replacement Parts List

Trouble- shooting Tips

RECOVERY OPERATION		
Symptom	Cause	Cure
<i>Compressor does not start or stops prematurely</i>	<ul style="list-style-type: none"> • MAIN POWER switch is off • Power cord is not plugged in or there is no power at plug • "FULL" message displays • "HI-P" message displays • Faulty components 	<ul style="list-style-type: none"> • Turn on MAIN POWER switch • Check circuit for power • Replace the tank (see "Installing or Replacing a Refrigerant Tank") • Be sure tank's valves are open • Be sure unit's DISCHARGE valve is open • Replace the tank (see "Installing or Replacing a Refrigerant Tank"), or allow it to cool • Check the scale calibration—see instructions in "Checking the Scale Accuracy" • Call factory
<i>Unit runs but won't shut off during recovery</i>	<ul style="list-style-type: none"> • Leak in A/C-R system • OIL DRAIN valve open • Faulty components 	<ul style="list-style-type: none"> • Repair leak • Close OIL DRAIN valve • Call factory

RECHARGING OPERATION		
Symptom	Cause	Cure
<i>No power when power switch is on—no display showing</i>	<ul style="list-style-type: none"> • Unit is unplugged • No power at outlet 	<ul style="list-style-type: none"> • Plug unit into power source • Locate problem at outlet or change outlets
<i>Audible tone sounds during refrigerant transfer</i>	<ul style="list-style-type: none"> • Refrigerant supply is empty 	<ul style="list-style-type: none"> • Replace the refrigerant tank
<i>Refrigerant does not flow</i>	<ul style="list-style-type: none"> • Refrigerant supply is empty • Valves not open 	<ul style="list-style-type: none"> • Replace the refrigerant tank • Open the valves

DIGITAL DISPLAY ERROR CODES	
CAL Unit needs to be calibrated; see "Calibrating the Scale"	FULL Refrigerant recovery tank is full
CPL Complete; recovery process is finished	SCAL Scale problem; scale broken or disconnected, or tank weight has exceeded 80 pounds
HI-P High pressure, system above 350 psi	99LB Display cannot show more than 99 lbs. of refrigerant; reset the unit



Wiring Diagram

Limited Warranty

This product is warranted to be free from defects in workmanship, materials, and components for a period of one year from date of purchase.

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. Transportation charges for warranty service are the responsibility of the purchaser (pre-paid to the factory).

5. Warranty service claims are subject to factory inspection for product defect(s).
6. All warranty service claims must be made within the specified warranty period. Proof-of-purchase date must be supplied to the manufacturer.

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 recharging any substance other than the specified refrigerant type.

Note: Refillable refrigerant recovery/recycling tanks are reusable. Do not return them to the factory, unless the tank is defective.



For assistance in servicing or using the Refrigerant Recovery/Recharging Unit, call the toll-free Service Line, 800-822-5561, inside the continental U.S. In Canada, call 419-485-5561, Ext. 300. 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.

To validate your warranty, you must complete the warranty card attached to your station and return it within ten days from date of purchase.

SPX

Robinair Division
SPX Corporation

ROBINAIR

Robinair Way
Montpelier, OH 43543-0193
Phone 419-485-5561
FAX 419-485-8300