

ROBINAIR®

AN SPX BRAND

Owner's Manual



Model AC375C

Refrigerant [Recovery, Recycle, and Recharge Unit](#)



Model AC375C
Recover, Recycle, and Recharge Unit
for R-12 or R-134a Refrigerant
Voltage: 220–230; 50–60 Hz

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 serious unit damage; **IMPORTANT** means you may risk unit damage; and **NOTES** provide clarity and helpful tips. These safety messages cover situations ROBINAIR is aware of. ROBINAIR cannot know, evaluate, and advise you regarding all possible hazards. You must make sure all conditions and procedures do not jeopardize your personal safety.

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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 these instructions, operating instructions and safety precautions must be read and discussed in the operator's native language.



PRESSURIZED TANK CONTAINS LIQUID REFRIGERANT. Do not recover or charge refrigerants into non-refillable containers; use only authorized refillable containers.



ALL 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. If accidental system discharge occurs, ventilate the work area before resuming service.



AVOID USING 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.



DO NOT USE COMPRESSED AIR TO PRESSURE TEST OR LEAK TEST THE UNIT OR VEHICLE AIR CONDITIONING 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 THE UNIT WITH EITHER R-134a OR R-12 REFRIGERANT. The unit is designed for recovering, recycling, and recharging either R-134a or R-12 refrigerant. The user must dedicate the unit to only one type of refrigerant. Do not attempt to adapt the unit for another refrigerant. 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 vehicle air conditioning system.

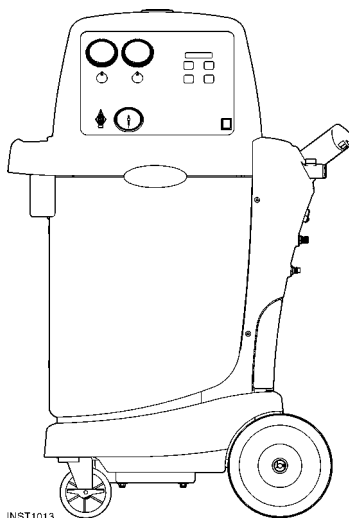


HIGH VOLTAGE ELECTRICITY INSIDE THE UNIT HAS A RISK OF ELECTRICAL SHOCK. Exposure may cause personal injury. Disconnect the power before opening the back door or servicing the unit.

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Introduction

General Description



CAUTION:
Once the machine has been dedicated to a specific refrigerant, do NOT adapt the unit to another refrigerant. Do not mix refrigerants through a system or in the same container; mixing refrigerants will cause severe damage to the unit and the vehicle air conditioning system.

The AC375C [recovers, recycles, and recharges vehicle](#) refrigerant in one hookup. It is compatible with existing service equipment and standard service procedures.

The AC375C may be configured to recover, recycle, and recharge either R-134a or R-12 refrigerant. **Once configured to R-12 or R-134a, the unit should be used only with the refrigerant for which it was initially configured.**

The AC375C is equipped with a power receptacle; the user provides the power cord, depending on the electrical power connection in the region where the unit is being used.

Throughout this manual metric measurements are used with U.S. equivalents in parentheses.

Glossary of Terms

A/C System — The vehicle air conditioning system being serviced.

Hose Storage Fittings — When not in use, the R-134a fittings can be connected to these fittings for storage purposes.

Internal Storage Vessel (ISV) — The refillable refrigerant storage vessel inside the unit.

Panel Valves — The high-side and low-side valves on the control panel, when described together.

Service Couplers — The couplers on the service hoses used to connect the hoses to the A/C system or to a source tank.

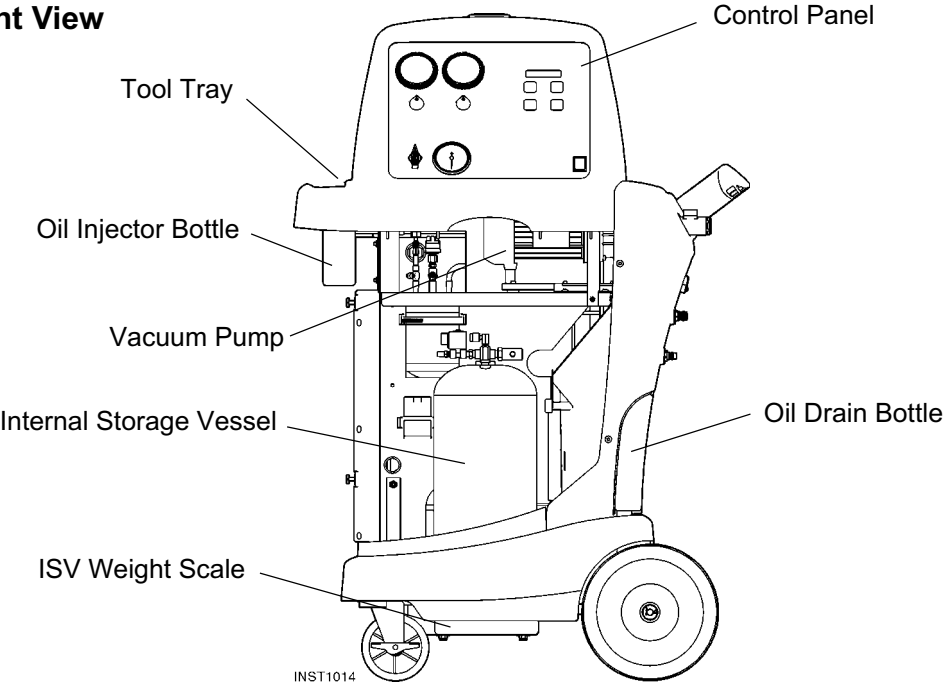
Service Hoses — The red and blue hoses used to connect the unit to the A/C system.

Source Tank — A tank of new refrigerant used to refill the internal storage vessel.

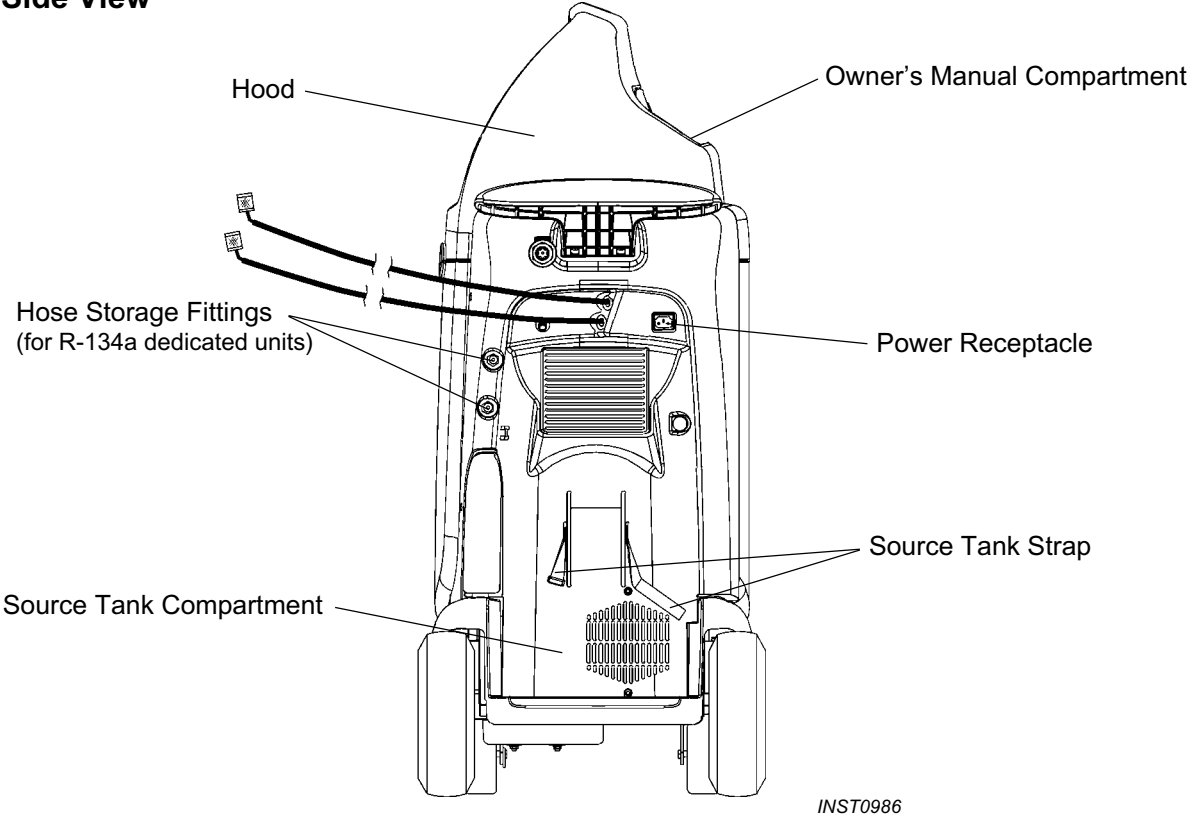
Unit — The recover, recycle, and recharge unit.

Component Identification and Location

Unit Front View



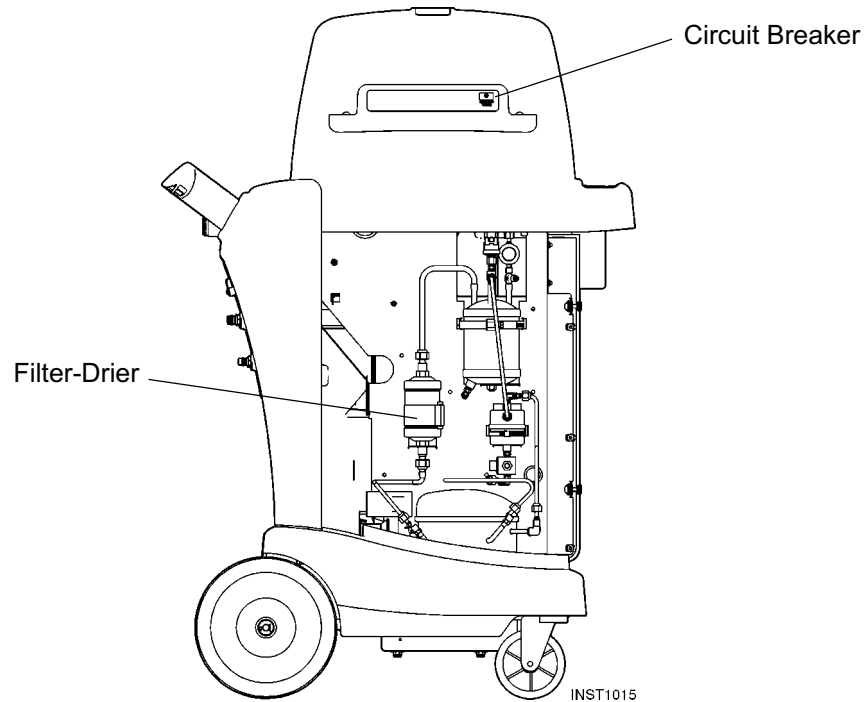
Unit Side View



Introduction

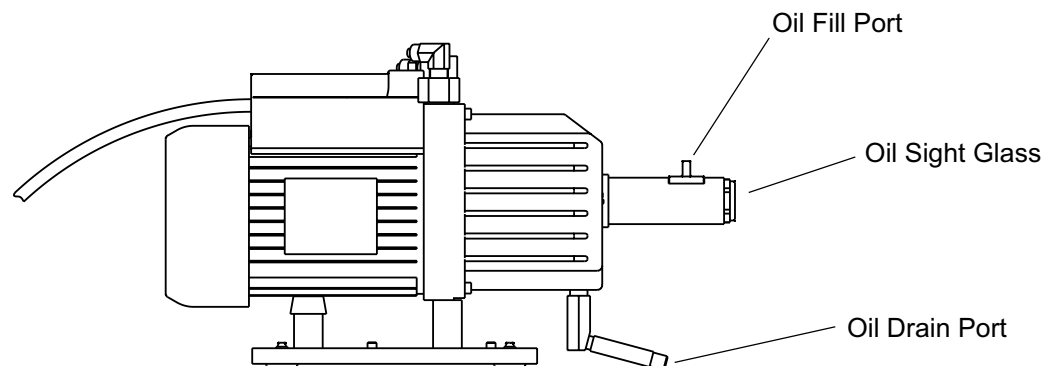
Component Identification and Location *contd.*

Unit Back View



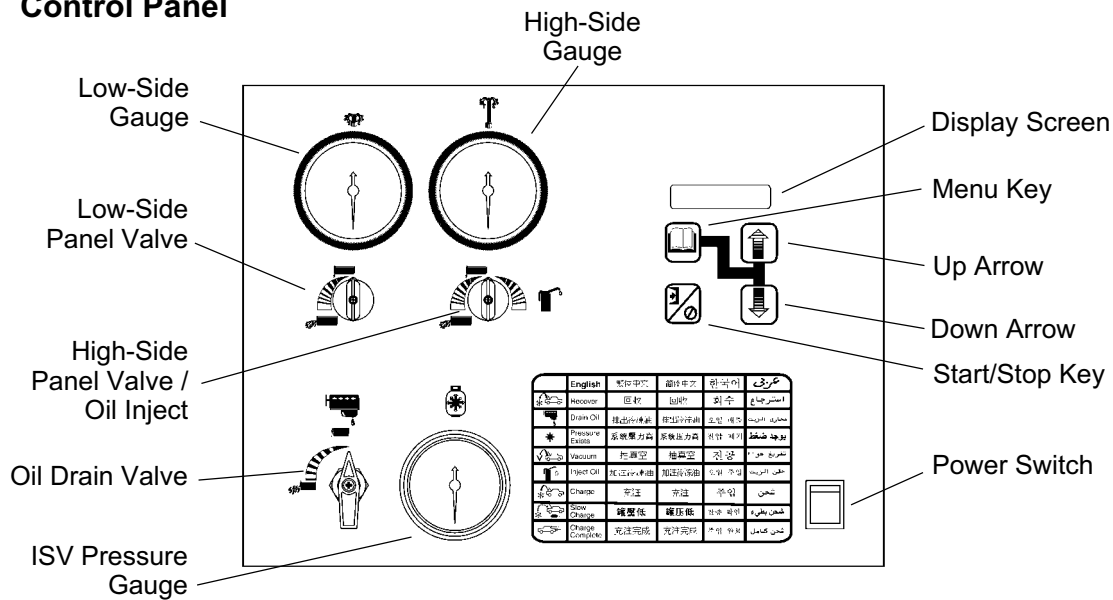
Vacuum Pump

(location shown on previous page)



Component Identification and Location *contd.*

Control Panel



Control Panel Descriptions

Low-Side Valve — controls the flow between the A/C system's low side and the unit.

High-Side Valve / Oil Inject — controls the flow between the A/C system's high side and the unit / injects new oil into the A/C system.

Low-Side Gauge — shows the A/C system's low-side pressure.

High-Side Gauge — shows the A/C system's high-side pressure.

Display Screen — displays operational information.

Keypad — contains the following keys for performing specific functions:

MENU — chooses function options.

START/STOP — starts, stops, or exits a function.

UP/DOWN Arrows — adjusts operating parameters.

ISV Pressure Gauge — shows the pressure inside the internal storage vessel.










Oil Drain Valve — drains the A/C system's oil into the oil drain bottle.

Introduction

Component Identification and Location *contd.*

Symbol Definitions

The following is an explanation of the symbols shown on the control panel:

 — Low Side	 — Oil Drain
 — High Side	 — ISV Pressure
 — Valve Open	 — Menu Key
 — Valve Closed	 — Start/Stop Key
 — Oil Inject	

Software Functions

MAIN MENU :

RECOVER — recovers and filters refrigerant from the A/C system.

VACUUM — activates the vacuum sequence for a programmed amount of time.

CHARGE — charges the A/C system with the programmed amount of refrigerant.

DIAGNOSTICS MENU : use to view and edit unit settings.

UNITS — toggles displayed weight between kilograms (kg) and pounds (lbs.).

REF — displays the approximate amount of refrigerant in the internal storage vessel.

FILTER — displays the remaining capacity of the filter by weight.

OIL — displays the remaining time in minutes and seconds until the next recommended vacuum pump oil change.

CALIBRATE— service technician uses to calibrate the weight scale.

EXIT— leaves the diagnostics menu.

CAUTION: To avoid damage to the unit, calibration must be performed by a qualified service technician.



This manual contains important procedures concerning the setup, operation, and maintenance of the unit. Read and follow all the warnings outlined at the beginning of this manual. Do not operate the unit until you have read and entirely understand the contents of this manual. If you do not understand any of the contents of this manual, notify your supervisor.

If the operator cannot read these instructions, all instructions and safety precautions must be read and discussed in the operator's native language.

Unpacking the Accessory Kit

Unpack the accessory kit from the bag and remove the plastic packaging. The accessory kit consists of the following:

- R-134a couplers.
- Vacuum pump oil.
- Owner's manual.
- Low-side tank adapter.
- Translation decal.

Placing the Translation Decal (optional)

The unit ships with a language chart on the control panel. An optional decal is also provided, which lists other languages. If desired, remove the backing from the translation decal, align it over the existing chart on the control panel, and press it in place.

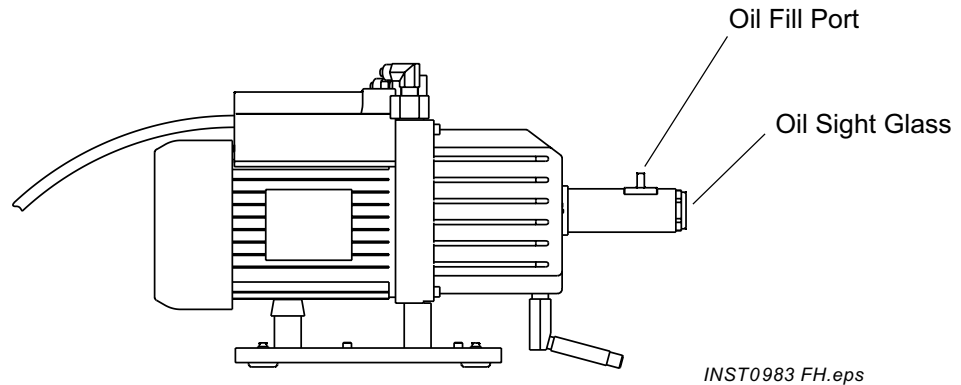
Initial Setup

Adding Vacuum Pump Oil

Use the following steps to add oil to the vacuum pump.

IMPORTANT: For maximum unit performance, change the vacuum pump oil after every 10 hours of operation.

CAUTION: The vacuum pump is shipped without oil in the reservoir. To avoid pump damage, add oil before starting the pump.



Vacuum Pump

CAUTION: Avoid using 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.

1. Plug a user supplied power cord into the unit and then into a correct voltage outlet.
2. Turn ON the power switch on the unit's control panel.
3. Remove the plastic plug from the oil fill port.
4. Pour about 177 mL (6 ounces) of oil into the oil fill port.
5. On the control panel, verify both panel valves are open and the service couplers are disconnected. The screen will display:

CLEAR 02.00

6. Press the **Start/Stop** key (🔌) to start the vacuum pump.

NOTE: At this time, the unit automatically evacuates all air from the unit.

Adding Vacuum Pump Oil contd.

7. With the vacuum pump running, slowly add oil until the level rises to the center of the oil sight glass.

NOTE: The pump holds approximately 237 mL (8 ounces) of oil.

8. When the vacuum pump countdown reaches zero, the vacuum pump stops, and the unit display changes to the recover function.
9. Replace the plastic plug in the oil fill port.

After adding oil to the vacuum pump, add refrigerant to the internal storage vessel. Refer to the instructions on the next page.

Note: The unit's weight default is in kilograms. To change the default to pounds:

1. Press the **Up** and **Down** arrow keys at the same time.

UNITS KG

will be displayed.

2. Press the **Up** or **Down** arrow key to toggle to LBS.
3. Press the **Menu** (☐) key until the display reads EXIT.
4. Press **Start/Stop** (⏻) key to exit.

Initial Setup

Adding Refrigerant to the Internal Storage Vessel

Add refrigerant to the internal storage vessel (ISV) after adding oil to the vacuum pump. After the initial refrigerant fill, refill the ISV as necessary. (Refer to *Adding Additional Refrigerant to the ISV.*) The AC375C is shipped as an R-12 refrigerant unit. Use the following steps to dedicate the unit to R-134a refrigerant and add refrigerant to the internal storage vessel.

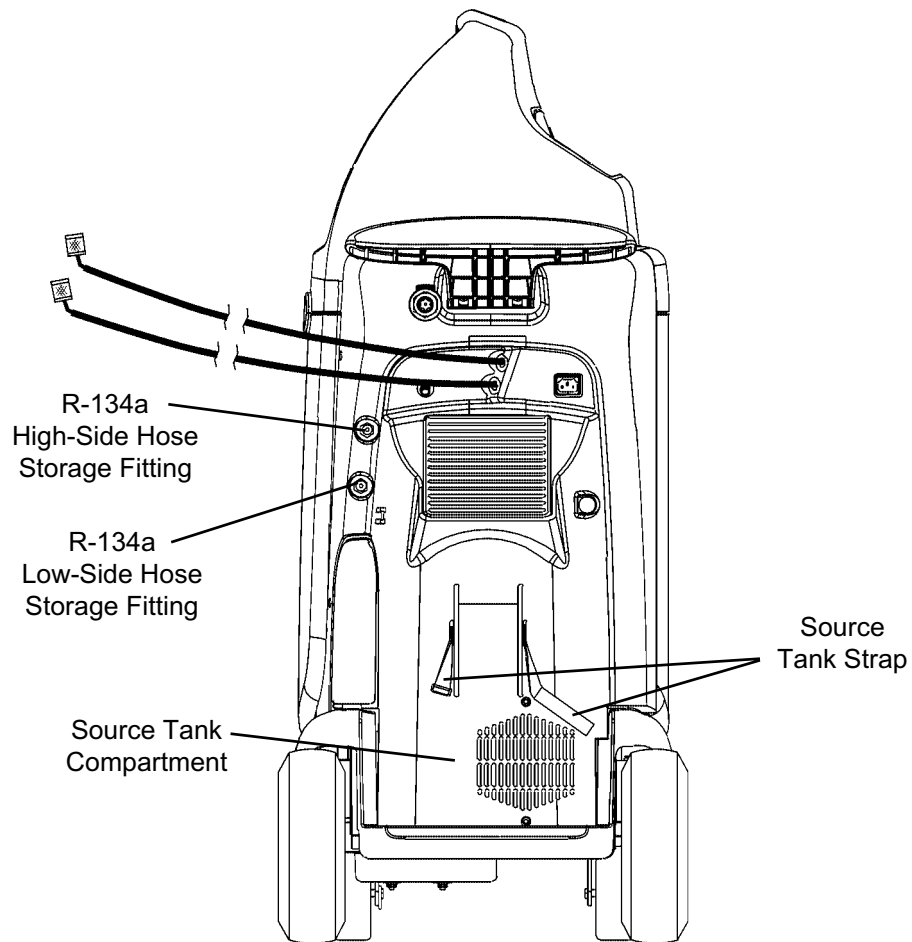


WARNING



Wear safety goggles when working with refrigerant. All hoses may contain liquid refrigerant under pressure. Disconnect hoses using extreme caution. Read and follow all warnings at the beginning of this manual before operating the unit.

CAUTION: Use only one type of refrigerant (either R-134a or R-12) in the unit. Do not mix refrigerant types through a system or in the same container; mixing of refrigerants will cause severe damage both to the unit and the vehicle air conditioning system. Do not attempt to adapt the unit for another refrigerant.



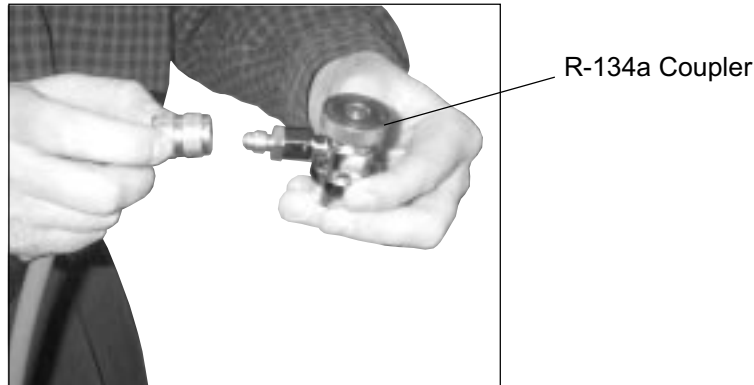
Unit Components - Side View

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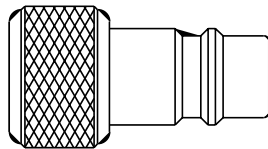
Adding Refrigerant to the Internal Storage Vessel *contd.*

R-12 refrigerant users start with Step 3.

1. Connect the blue R-134a coupler to the blue hose and the red R-134a coupler to the red hose as shown.



2. Connect the low-side tank adapter (from the accessory kit) to the liquid valve on the refrigerant source tank. **NOTE:** *If using a refillable source tank, connect the tank adapter to the vapor valve.*



R-134a Tank Adapter

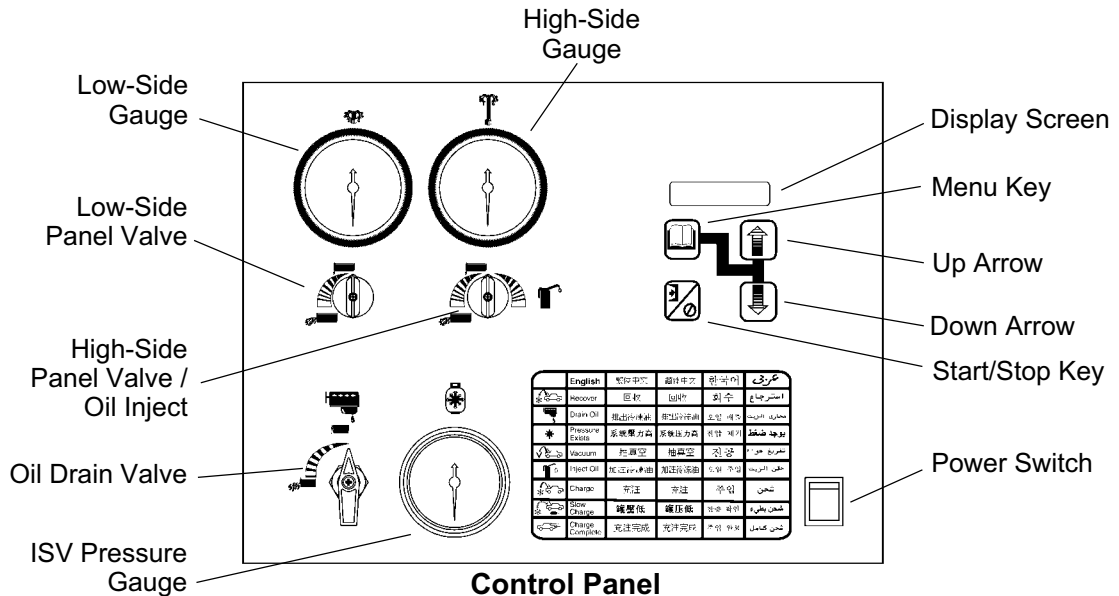
3. Connect the service coupler of the low-side hose (blue) to the refrigerant source tank.
4. Open the valve on the source tank, and place the tank upside down in the source tank compartment. Secure the source tank in place by wrapping the strap around the tank and then fastening the strap.
5. The screen should display RECOVER XX.XXKG.

If it does not, scroll through the functions, pressing the **Menu** key (☐) until RECOVER XX.XXKG is displayed.

6. Press the **Arrow** keys to adjust the recover weight to 7 kg (15 lbs.).

Initial Setup

Adding Refrigerant to the Internal Storage Vessel *contd.*



- On the control panel, open the low-side valve; verify the high-side valve is closed.
- Press the **Start/Stop** key (🛑). The internal storage vessel begins filling, and the screen displays the amount of refrigerant being transferred to the internal storage vessel.
- The unit automatically stops when 7 kg (15 lbs.) has been transferred to the internal storage vessel. The display will flash between:

RECOVER XX.XXKG and DRAIN OIL

NOTE: Do not drain oil until the following steps are complete. Drain oil instructions begin on next page.


- Unstrap the source tank, remove it from its compartment, and close the source tank valve.
- Disconnect the hose from the tank.
- Cap the source tank with its original tank cap. For storage, place the source tank upright in the source tank compartment. Secure the source tank in place by wrapping the strap around the tank and then fastening the strap.
- Press the **Start/Stop** key (🛑) to exit the recover function.


Adding Refrigerant to the Internal Storage Vessel *contd.*

12. Do the following to clear the service hoses:

a. Press the **Menu** key () to:


RECOVER XX.XXKG

b. Press the **Start/Stop** key () to start hose clearing.

c. Watch the low-side gauge. When gauge pressure reaches 34 kPa (10 in. Hg) vacuum, press the **Start/Stop** key () to stop the clearing process.

13. Close the low-side panel valve.

Drain Oil

1. On the control panel, open the oil drain valve.
2. Watch the oil drain into the oil drain bottle. When oil stops draining, close the oil drain valve.
3. Press the **Start/Stop** key () to exit the recover function.

The initial setup is now complete.



WARNING



This manual contains important procedures concerning the setup, operation, and maintenance of the unit. Read and follow all warnings at the beginning of this manual. Do not operate the unit until you have read and entirely understand the contents of this manual. If you do not understand any of the contents of this manual, notify your supervisor.

If the operator cannot read these instructions, all instructions and safety precautions must be read and discussed in the operator's native language.

Operating Guidelines

For best results when operating the unit, use the following guidelines along with the operation instructions contained in this manual.

CAUTION:
Using the recovery compressor in vacuum for an extended period of time could damage the compressor.

- The compressor pulls the A/C system to a partial vacuum only. Use the vacuum function for a minimum of 15 minutes to remove moisture from the A/C system. Refer to *Evacuating the A/C System* in the “Operation” section of this manual.
- The unit includes a 71 l/m (3 cfm) high vacuum pump for fast, thorough evacuation. Change the vacuum pump oil after every 10 hours of vacuum pump use. The unit displays a CHANGE OIL message as a reminder. Refer to *Changing the Vacuum Pump Oil* in the “Maintenance” section of this manual.
- The unit is equipped with a circuit breaker button, located on the back of the unit. If the circuit breaker trips, the unit will not function correctly and will lose all power. If necessary, press the circuit breaker button to reset the unit.
- This unit should be operated between the ambient temperatures of 11–49° C (50–120° F). At temperatures exceeding 40° C (104° F), wait 10 minutes between recovery jobs.
- Follow the SAE-J2211 recommended service procedure for the containment of R-134a refrigerant, or SAE-J1989 for R-12 refrigerant.
- During normal use, periodically inspect the unit for leaks. At a minimum, inspect the unit every three months. Refer to *Checking for Leaks* in the “Maintenance” section of this manual.

Operating Guidelines *contd.*

- During operation, any of the following messages may appear on the display screen. If a message appears, immediately take the appropriate action.

CHANGE FILTER — This message appears after every 68.0 kg (150 lbs.) of refrigerant has been recovered, indicating that the filter-drier needs to be replaced. Refer to ***Replacing the Filter-Drier*** in the “**Maintenance**” section of this manual. **NOTE:** *To avoid service delays, keep extra filter-driers on hand.*

CHANGE OIL — This message appears after every 10 hours of vacuum pump use. Refer to ***Changing the Vacuum Pump Oil*** in the “**Maintenance**” section of this manual.

DRAIN OIL — This message appears after recovering refrigerant from an A/C system. For more information, refer to ***Draining the A/C System Oil*** in this “**Operation**” section of this manual.

HIGH PRESSURE — This message appears if the internal storage vessel’s pressure rises to 25 bar (365 psig) or higher. Let the unit cool down for 30 minutes. Then press the **Menu** key (⏏) and the **Up** arrow key to clear the message from the display screen. If the message does not clear, contact a manufacturer-authorized service technician.

OVERLOAD — This message appears if the weight of the internal storage vessel reaches 21.3 kg (47 lbs.), or if the unit’s weight scale is damaged, disconnected, or out of calibration. Immediately remove refrigerant from the internal storage vessel. Then press the **Menu** key (⏏) and the **Up** arrow key to clear the message from the display screen. If the message does not clear, contact a manufacturer authorized service technician.

PRESSURE EXISTS — This message appears if there is pressure in the hoses when the vacuum cycle is started, and is designed to protect the vacuum pump from damage due to over pressurization. If this happens, you must recover before the vacuum operation is started.

SLOW CHARGE — This message appears if the unit cannot charge .05 lbs. in 30 seconds. It may be necessary to use the vehicle to pull the refrigerant in. Refer to the ***Slow Charge*** procedure in this “**Operation**” section of this manual.

Operation

Recovering the A/C System Refrigerant

⚠ WARNING ⚠



Wear safety goggles when working with refrigerant. All hoses may contain liquid refrigerant under pressure. Disconnect hoses using extreme caution. Read and follow all warnings at the beginning of this manual before operating the unit.



Do not overfill the internal storage vessel. Overfilling may cause explosion and serious personal injury or death. If the message **OVERLOAD** appears in the display screen, the internal storage vessel is too full — remove refrigerant. If the message **HIGH PRESSURE** appears in the display screen, let the unit cool down. If the message does not clear, call an authorized service technician.

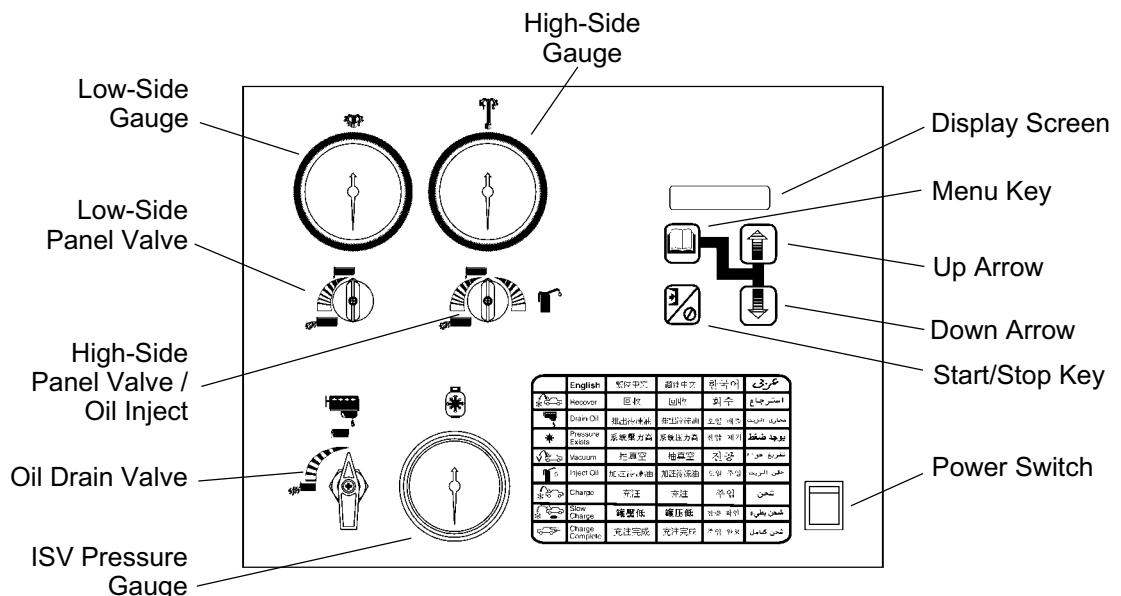
Do not recover or charge refrigerants into nonrefillable containers; use only authorized refillable refrigerant containers. Do not overfill refrigerant containers. Overfilling may cause explosion and serious personal injury or death.



The unit is designed to recover, recycle, and recharge either R-134a or R-12 refrigerant! The user must dedicate the unit to only one type of refrigerant. Do not attempt to adapt the unit for another refrigerant. 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 vehicle air conditioning system.

Use the following steps to recover refrigerant from the vehicle's A/C system.

1. Plug the user supplied power cord into a correct voltage outlet, and turn the unit ON. **Note:** It is normal to hear air purge from the tank every time the unit is powered.
2. Connect the service hoses to the A/C system. **IMPORTANT:** Connect the red service hose to the A/C system's high side; connect the blue service hose to the low side.



Control Panel

Recovering the A/C System Refrigerant *contd.*

3. On the control panel, open both panel valves.
4. Press the **Menu** key (☐) until RECOVER X.XX KG is displayed. (X.XX is the amount of refrigerant capacity remaining in the internal storage vessel [ISV].) Press the **Start/Stop** key (⏻) to begin the recovery operation. Once recovery begins, RECOVER X.XXKG changes from the amount in the ISV to the amount being recovered.

Note:

- Verify there is enough room in the ISV by comparing the amount of refrigerant in the A/C system to the amount on the display screen. The amount in the A/C system should not be greater than the amount initially displayed. If the amount is greater, charge some of the refrigerant from the ISV into another refillable refrigerant tank making enough room available.
 - The compressor pulls the A/C system to a partial vacuum only. You must use the unit's vacuum (evacuate) cycle to remove moisture from the A/C system.
5. Watch the low-side gauge. When the pressure gauge reaches 34 kPa (10 in. Hg) vacuum, press the **Start/Stop** key (⏻). The display screen will indicate how much refrigerant has been recovered. The display screen toggles between:

RECOVER XX.XXKG and DRAIN OIL

NOTE: Drain oil after the recovery is complete; refer to next page for draining the oil.

6. Close both panel valves.
7. Wait two minutes and then check the low-side gauge for a rise in pressure to above zero. If there is a rise in pressure, repeat Steps 4 through 8 as needed until the pressure holds below zero for two minutes.

NOTE: If the pressure does not drop to 34 kPa (10 in. Hg) vacuum, or does not hold at 34 kPa (10 in. Hg) vacuum for at least two minutes, there was freezing in the A/C system during recovery, or the A/C system requires repair. Repeat recovery or repair the A/C system as necessary.

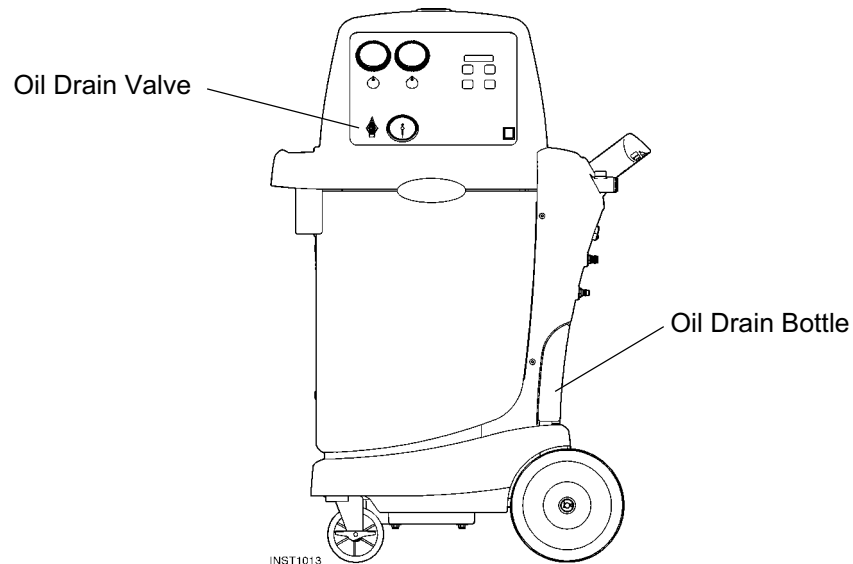
8. Press the **Start/Stop** key (⏻) to exit the recover function.

After recovering all refrigerant from the A/C system, drain the A/C system oil. Refer to the instructions on the next page.

CAUTION:
Using the recovery compressor in vacuum for an extended period of time could damage the compressor.

Draining the A/C System Oil

After recovering the refrigerant from the A/C system, use the following steps to drain the A/C system oil into the unit's oil drain bottle.



Oil Drain Bottle Location

1. Verify the oil drain bottle is empty. Remove, empty, and replace the oil drain bottle if necessary.
NOTE: *Dispose of oil according to current local regulations.*
2. On the control panel, open the **Oil Drain** valve. Watch the oil drain into the oil drain bottle.
3. When the oil stops draining, close the **Oil Drain** valve.
4. Check the oil drain bottle, and record the amount of oil removed. This is the amount of oil that must be added to the A/C system after evacuating the A/C system. Refer to **Replenishing the A/C System Oil** in the “**Operation**” section of this manual.
5. Remove, empty, and replace the oil drain bottle.

After draining the oil, evacuate the A/C system. Refer to the instructions on the next page.

Evacuating the A/C System


After recovering all refrigerant from the A/C system, draining the oil from the system, and making repairs to the A/C system, use the following steps to evacuate (VACUUM) the A/C system.




WARNING




Wear safety goggles when working with refrigerant. All hoses may contain liquid refrigerant under pressure. Disconnect hoses using extreme caution. Read and follow all warnings at the beginning of this manual before operating the unit.

1. Verify the power cord is plugged into a correct voltage outlet, and the service hoses are connected to the A/C system. **IMPORTANT: Connect the red service hose to the A/C system's high side; connect the blue service hose to the low side.**
2. On the control panel, turn the unit ON, and open both panel valves.
3. Press the **Menu** key () until the VACUUM screen displays. Press the **Arrow** keys to set the amount of time desired for the vacuum. Fifteen minutes is recommended, but the time may vary depending on environmental conditions.

VACUUM 15:00

NOTE: The display screen shows the time as mm:ss; where mm represents minutes and ss represents seconds. Setting vacuum time to 0 (zero) will result in continuous vacuum pump operation. To exit the vacuum function, press the **Start/Stop** key () .

4. Press the **Start/Stop** key () to begin the vacuum operation. Watch the vacuum time on the display — the display counts down the amount of time it will take to evacuate the A/C system.

VACUUM 00.00

5. When the evacuation is complete, the unit automatically shuts off, and INJECT OIL displays on the screen.
6. Close both panel valves on the control panel.
7. Note the pressure on the low-side gauge, and then wait five minutes.
8. Check the low-side gauge for a rise in pressure. If pressure remains stable, evacuation is complete. If there is a rise in pressure, the A/C system may need further repairs, or the evacuation may need to be repeated.

CAUTION: If the display shows **PRESSURE EXISTS**, there is pressure in the hoses which may damage the vacuum pump. You must perform a recovery operation before starting the vacuum operation.

Replenishing the A/C System Oil

Before recharging the A/C system, replenish the A/C system oil. Add only the amount of oil that was removed during recovery. If no oil was removed, do not add any oil.

NOTE:

- Consult the A/C system manufacturer for correct oil replacement procedures and oil specifications.
 - Replacing A/C system components may require adding more oil. Consult the component manufacturer for recommendations.
1. Refer to amount of oil that was removed during recovery. (See Step 4 on page 18.)
 2. Fill oil injector bottle with new oil:
 - Add 30–60 mL (1–2 ounces) more oil than was recovered in Step 4 on page 18.
 - Add any additional oil required by A/C component change.
 3. Note the level of new oil in the bottle.
 4. Turn the high-side valve to the **Oil Inject** position (🔧) until the system is replenished with the desired amount of oil. **NOTE:** To avoid getting air into the A/C system, do not remove all the oil from the oil inject bottle.
 5. Close the high-side valve.
 6. Press the **Start/Stop** key (🛑) to exit the vacuum function.

To ensure replenishment of oil into the A/C system, immediately recharge the A/C system. Refer to instructions on the next page.

Recharging the A/C System Refrigerant





WARNING



Wear safety goggles when working with refrigerant. All hoses may contain liquid refrigerant under pressure. Disconnect hoses using extreme caution. Read and follow all warnings at the beginning of this manual before operating the unit.

After evacuating the A/C system and replenishing the A/C system oil as necessary, use the following steps to recharge the A/C system's refrigerant.

NOTE: For maximum unit performance during recharging, verify the refrigerant level in the source tank is at least 1.4 kg (3 lbs.) more than the amount required for recharging the vehicle being serviced.

1. Refer to the A/C system manufacturer's service manual to determine the required amount of refrigerant to recharge.
2. Verify the unit's power cord is plugged into a correct voltage outlet and that the service hoses are connected to the A/C system. **IMPORTANT: Connect the red service hose to the A/C system's high side; connect the blue service hose to the low side.**
3. On the control panel, turn the unit ON. Press the **Menu** key () until CHARGE XX.XX displays (XX.XX refers to the charge weight). Use the **Arrow** keys to program how much to charge. Refer to the vehicle manufacturer's specifications for the amount to charge.
4. Open the appropriate panel valve(s) according to the A/C system manufacturer's specifications.
5. Press the **Start/Stop** key () to begin charging. The screen displays the amount of refrigerant being charged.
6. Watch the display screen. When the required amount appears, the screen will toggle between CHARGE COMPLETE and the amount that has been charged.

CHARGE COMPLETE

and

CHARGE XX.XX

In some cases, the unit may not be able to charge the full amount, and will display SLOW CHARGE. Skip to the **Slow Charge Procedure** on the next page.

CAUTION:


R-134a systems have special fittings to avoid cross contamination with R-12 systems. Do not attempt to adapt the unit for another refrigerant — system failure will result!

Recharging the A/C System Refrigerant *contd.*

CAUTION:
Before starting the vehicle's engine, verify the vehicle is in PARK, or NEUTRAL, with the emergency brake ON. Never run a vehicle without adequate ventilation in the work area.

Clear Hoses


After the charge is complete, or after using the unit to diagnose an A/C system, clear remaining refrigerant from the hoses to ensure a more accurate charge. Follow this procedure to ensure all the liquid refrigerant trapped in the service hoses is transferred to the vehicle A/C system.

1. Disconnect the high-side service coupler from the vehicle.
2. Open both panel valves
3. Place the vehicle gear selector in park or neutral with the emergency brake ON.
4. Start the vehicle. Set the A/C system to its maximum setting.
5. The unit will charge out of the low-side inlet only, allowing the vehicle's compressor to pull the refrigerant into the A/C system.
6. Open and disconnect the low-side coupler from the vehicle after the high- and low-side pressure gauges are at their lowest pressure reading.
7. Turn off the vehicle engine.
8. Close the panel valves.
9. Press the **Start/Stop** key () to exit the charge function.

Slow Charge Procedure

SLOW CHARGE

In some cases, the unit may not be able to charge the full amount. If the unit cannot charge .05 lbs. in 30 seconds, the display shows SLOW CHARGE. If this occurs, follow this procedure to pull the refrigerant in using the vehicle.

1. Disconnect the high-side service coupler from the vehicle.
2. Open both panel valves.
3. Place the vehicle gear selector in park, or neutral, with the emergency brake ON.
4. Start the vehicle. Set the A/C system to its maximum setting.
5. The unit will charge out of the low-side inlet only, allowing the vehicle's compressor to pull the refrigerant into the A/C system.
6. Open and disconnect the low-side coupler from the A/C system when the high and low pressure gauges are at their lowest reading.
7. When the required amount has been charged, the display shows CHARGE COMPLETE. Close both panel valves and disconnect the unit from the vehicle.
8. Close the panel valves.
9. Press the **Start/Stop** key () to exit the charge function.

Adding Additional Refrigerant to the Internal Vessel

Periodically, the internal storage vessel (ISV) will require additional refrigerant. Use the following steps to add refrigerant to the ISV.

1. Connect the service coupler of the low-side hose (blue) to the refrigerant source tank.

NOTE: *If using a refillable source tank, connect to the vapor valve. R-134a tanks require the tank adapter (illustrated on page 11) to be used on the source tank.*

2. Open the valve on the source tank, place the tank upside down in the source tank compartment, and secure the strap around the tank.
3. Press the **Menu** key (☐) until RECOVER XX.XXKG (LBS) is displayed. (XX.XX is the amount of refrigerant capacity remaining in the ISV.)
4. Press the **Arrow** keys to adjust to the desired recover weight.

Note: *Although the display shows the refrigerant capacity remaining in the ISV, the ISV should not be filled to this level. At least 4 kg (9 lbs.) of refrigerant capacity should be available in the ISV after filling to allow space for the next A/C recovery. Therefore, adjust the unit to fill the ISV to a level at least 4 kg (9 lbs.) **less** than what the display shows for remaining refrigerant capacity.*

5. On the control panel, open the low-side valve; verify the high-side valve is closed.
6. Press the **Start/Stop** key (⏻). The ISV begins filling, and the screen displays the amount of refrigerant being transferred to the ISV.
7. The unit automatically stops when the desired amount has been transferred to the ISV. The display will flash between:

RECOVER XX.XXKG and DRAIN OIL

NOTE: *Drain oil after the internal storage vessel is filled.*

8. Unstrap the source tank, remove it from its compartment, and close the source tank valve.
9. Disconnect the hose from the tank.
10. Cap the source tank with its original tank cap. For storage, place the source tank upright in the source tank compartment, and secure the source tank strap around the tank.
11. Press the **Start/Stop** key (⏻) to exit the recover function.

Adding Additional Refrigerant to the Internal Vessel *contd.*

12. Do the following to clear the service hoses:

a. Press **Menu** key (☐) to:

RECOVER XX.XXKG

b. Press **Start/Stop** key (⏏) to start hose clearing.

c. Watch the low-side gauge. When gauge pressure reaches 34 kPa (10 in. Hg) vacuum, press the **Start/Stop** key (⏏) to stop the clearing process.

13. Close the low-side panel valve.

Drain Oil

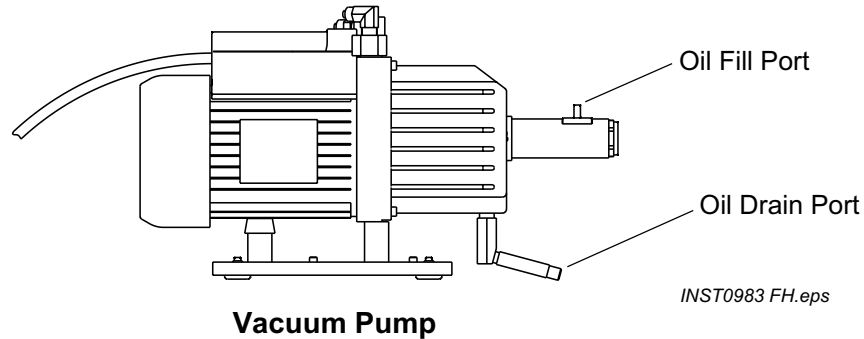
1. On the control panel, open the oil drain valve.

2. Watch the oil drain into the oil drain bottle. When oil stops draining, close the oil drain valve.

3. Press the **Start/Stop** key (⏏) to exit the recover function.

Changing the Vacuum Pump Oil

For maximum unit performance, change the vacuum pump oil after every 10 hours of operation. The unit keeps track of vacuum pump running time and notifies the user on the display screen when it is time to change oil. For optimum performance, use only Robinair Premium High Vacuum Oil. Use the following steps to change the vacuum pump oil.



1. Remove the cap from the oil drain port, and drain the oil into a suitable container for disposal. The container must be 474 mL (16 oz.) or larger.

NOTE: Dispose of oil according to current local area regulations.

2. Replace the cap on the oil drain port.
3. Remove oil fill cap.
4. Add 177 mL (6 ounces) of oil.
5. Verify panel gauges read less than 0.
6. Press **Menu** key (☐) until screen displays VACUUM XX.XX. Press **Start/Stop** key (⏻).
7. With the vacuum pump running, slowly add oil until the level rises to the center of the oil sight glass.

NOTE: The pump holds approximately 237 mL (8 ounces) of oil.

8. Press **Start/Stop** key (⏻).
9. Replace cap.
10. Press **Start/Stop** key (⏻) to exit vacuum.

After changing the vacuum pump oil, reset oil time.

Resetting Oil Time

Every time the vacuum pump oil is changed, the vacuum pump oil timer should be reset. Use the following steps to reset the oil timer.

1. Press and hold the **Up** and **Down** arrows until the display shows UNITS KG (LBS).
2. Press **Menu** key (☐) until screen displays OIL XXX (XXX = minutes).
3. Press and hold the **Up** and **Down** arrows until the screen displays OIL 600 (minutes).
4. Press the **Menu** key (☐) until EXIT displays.
5. Press the **Start/Stop** key (⏻) to exit.

Replacing the Filter-Drier

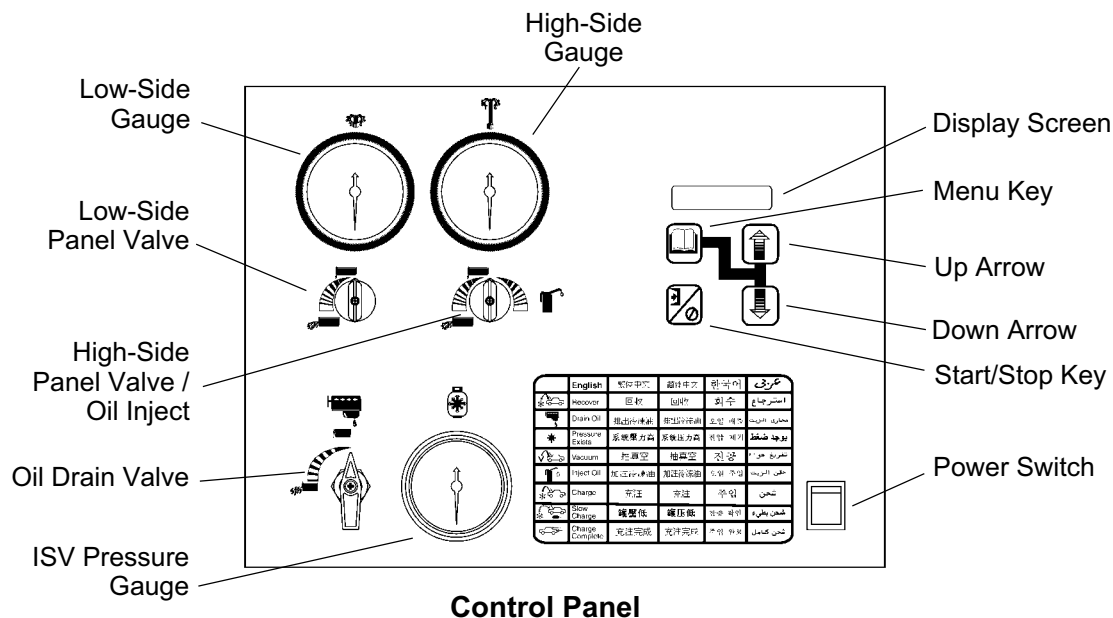
The filter-drier inside the unit removes acid, particulates, and moisture from refrigerant during the recovery function. To provide adequate contaminant and moisture removal, the filter-drier must be replaced after every 68 kg (150 lbs.) of refrigerant recovered. The following will appear in the display:

CHANGE FILTER

Use the following steps to replace the filter-drier.

NOTE: For maximum unit performance, use only SPX/ROBINAIR filter-driers. To avoid service delays, keep extra filter-driers on hand. Refer to the **Re-placement Parts** section of this manual.

1. Plug the power cord into a correct voltage outlet.
2. Verify the service hoses are NOT connected to a vehicle.



3. On the control panel, open both panel valves.
4. Press the **Menu** key (☐) until RECOVER XX.XX displays on the screen.
5. Press the **Start/Stop** key (⊗).
6. Watch the low-side gauge. When the gauge pressure reaches 34 kPa (10 in. Hg) vacuum, close both panel valves.
7. Press the **Start/Stop** key (⊗).
8. Remove the power cord from the outlet.

Replacing the Filter-Drier *contd.*

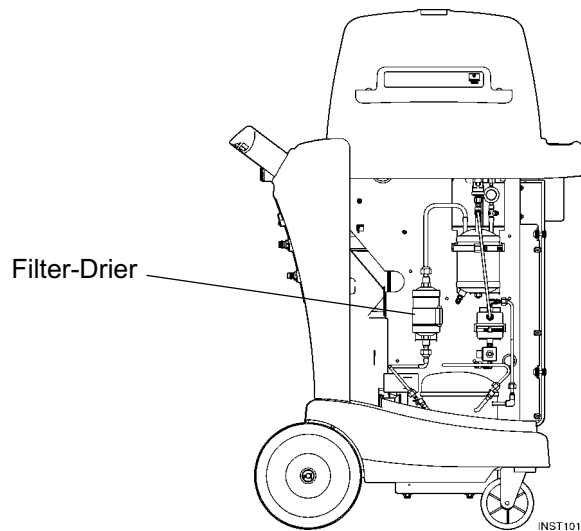


WARNING

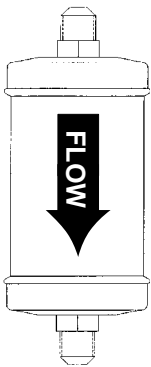


High voltage electricity inside the unit has a risk of electrical shock. Disconnect the power before opening the back door or servicing the unit.

9. Open the back door of the unit's protective covering by turning the two screws 1/4 turn counterclockwise.



Filter-Drier Location



10. Remove the strap, and disconnect the fittings from the filter-drier.

NOTE: *Dispose of the filter-drier according to current local area regulations.*

11. Install the new filter-drier with the FLOW direction arrow pointing down, tighten fittings, and secure with the strap.
12. Close and lock the back door of the unit's plastic covering by turning the two screws 1/4 turn clockwise.




After replacing the filter-drier, reset the filter-drier capacity. Refer to the instructions on the next page.

Resetting the Filter-Drier Capacity

The unit keeps track of the filter-drier's remaining capacity. As the unit filters refrigerant, the remaining capacity decreases from 68 kg (150 lbs.) to zero. When the capacity reaches zero, the unit will display:

CHANGE FILTER

Use the following steps to reset the filter-drier's capacity.

1. Plug the power cord into a correct voltage outlet.
2. Press the **Arrow** keys simultaneously until UNITS KG (LBS) appears on the display.
3. Press the **Menu** key () until FILTER XXX appears on the display.
4. Press the **Arrow** keys simultaneously until FILTER 68KG (150 LBS) appears on the display.
5. Press the **Menu** key () until EXIT displays.
6. Press the **Start/Stop** key () to exit the diagnostics function.

The unit is now ready to begin counting down for the new filter-drier.

Checking for Leaks

Over time, fittings can loosen as the unit is used and moved. During normal use, inspect the unit for leaks a minimum of every three months (or as specified by current local laws). Use the following steps to check the unit for leaks.

NOTE: *The manufacturer does not reimburse for lost refrigerant.*

1. Remove the power cord from the outlet.



WARNING



High voltage electricity inside the unit has a risk of electrical shock. Disconnect the power before opening the back door or servicing the unit.

2. Remove the four screws that secure the hood.
3. Remove the hood.
4. Open the back door of the unit's protective covering by turning the two screws 1/4 turn counterclockwise, and lift the door off the unit.
5. Remove the five screws that secure the front section of the unit's protective covering, and remove the covering.
6. Use a leak detector to trace all lines and check all connections for refrigerant leaks. Tighten any fittings or connections if a leak is indicated.



WARNING



DO NOT use compressed air to pressure test or leak test the unit. Some mixtures of air and refrigerant are combustible at elevated pressures. These mixtures are potentially dangerous and may result in fire or explosion.

7. Replace the unit's protective covering as follows:
 - a. Replace the front section, and replace the five screws that secure the covering.
 - b. Replace, close, and lock the back door by turning the two screws 1/4 turn clockwise.
 - c. Replace the hood, and replace the four screws that secure the hood.



WARNING



This manual contains important procedures concerning the setup, operation, and maintenance of the unit. Read and follow all warnings at the beginning of this manual. Do not operate the unit until you have read and entirely understand the contents of this manual. If you do not understand any of the contents of this manual, notify your supervisor.

If the operator cannot read these instructions, all instructions and safety precautions must be read and discussed in the operator's native language.

Calibrating the Weight Scale

The unit's weight scale is calibrated at the factory and requires no further calibration.

NOTE: *If the message OVERLOAD appears on the display screen on the control panel, the weight of the internal storage vessel is too high, or the unit's weight scale is damaged, disconnected, or out of calibration. Call a qualified service technician.*

Cleaning the Unit

On a regular basis, wipe off the unit with a clean cloth to remove grease, dust, or other dirt.

Replacement Parts

The following is a list of replacement parts and accessories for the unit. For ordering information, use the technical support telephone number listed on the back cover of this manual.

Part No.	Part Name
13204	Premium High Vacuum Pump Oil – Case of 4 Gallons
13203	Premium High Vacuum Pump Oil – Case of 12 Quarts
13201	Premium High Vacuum Pump Oil – Case of 12 Pints
535594	Low-side Service Coupler
535595	High-Side Service Coupler
534717	Filter-Drier
768220	Blue Service Hose
768320	Red Service Hose