

Original Instructions
Instrucciones originales
Instruções originais
Consignes originales

Models: 34788NI, 34788NI-H



Recover, Recycle, Recharge Machine
for R134A A/C systems

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Safety Precautions

Explanation of Safety Signal Words Used in this Manual

The safety signal word designates the degree, or level, of hazard seriousness.



DANGER: Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION: Used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

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.

Explanation of Safety Decals Used on the 34788NI/34788NI-H

	Carefully read the instructions.
	Do not use in open air in case of rain or high humidity.
	Wear gloves.
	Wear protection goggles.
	Alternating voltage.
	Grounding protection.
	Electrical shock hazard.

Safety Precautions



WARNING : To prevent personal injury,



ALLOW ONLY QUALIFIED PERSONNEL TO OPERATE THE MACHINE. Before operating the machine, 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.



USE THE 34788NI/34788NI-H AS OUTLINED IN THIS MANUAL. Using the machine in a manner for which it was not designed will compromise the machine and nullify the protections provided.



PRESSURIZED TANK CONTAINS LIQUID REFRIGERANT. Do not overfill the internal storage vessel (ISV), because overfilling may cause explosion resulting in personal injury or death. Do not recover refrigerants into nonrefillable containers; use only type-approved refillable containers that have pressure relief valves.



HOSES MAY CONTAIN LIQUID REFRIGERANT UNDER PRESSURE. Contact with refrigerant may cause personal injury, including blindness and frozen skin. Wear protective equipment, including goggles and gloves. Disconnect hoses using extreme caution. Ensure the phase has been completed before disconnecting the machine to prevent the release of refrigeration to the atmosphere.



DO NOT BREATHE REFRIGERANT AND LUBRICANT VAPOR OR MIST. R134a reduces the oxygen available for breathing, resulting in drowsiness and dizziness. Exposure to high concentrations of R134a causes asphyxiation, injury to the eyes, nose, throat, and lungs, and can affect the central nervous system. Use the machine in locations with mechanical ventilation that provides at least one air change per hour. If accidental system discharge occurs, ventilate the work area before resuming service.

DO NOT DISPERSE REFRIGERANT INTO THE ENVIRONMENT. Such a precaution is necessary to prevent the possible presence of refrigerant in the working environment.



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

TO REDUCE THE RISK OF FIRE, 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 machine in the vicinity of flames and hot surfaces. Refrigerant can decompose at high temperatures and can free toxic substances to the environment which can be noxious to the user.

TO REDUCE THE RISK OF FIRE, do not use the machine in environments containing explosive gases or vapors.

TO REDUCE THE RISK OF FIRE, do not use this machine in ATEX classified zones or areas. Protect the machine from conditions that may cause electrical failure or other hazards relating to ambient interaction.



DO NOT USE COMPRESSED AIR TO PRESSURE TEST OR LEAK TEST THE MACHINE OR VEHICLE AIR CONDITIONING SYSTEM. Mixtures of air and R134a refrigerant can be combustible at elevated pressures. These mixtures are potentially dangerous and may result in fire or explosion causing personal injury and / or property damage.



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

NEVER LEAVE THE MACHINE LIVE IF AN IMMEDIATE USE IS NOT SCHEDULED. Disconnect the electrical supply before a long period of inactivity or before internal maintenance is performed. To ensure that unauthorized personnel cannot run the machine, use the Lockout / Tag Out feature.

DO NOT MODIFY THE PRESSURE RELIEF VALVE OR CHANGE THE CONTROL SYSTEM SETTINGS. Using the machine in a manner for which it was not designed will compromise the machine and nullify the protections provided.

Safety Precautions

CAUTION : To prevent equipment damage,



TO PREVENT CROSS-CONTAMINATION, USE THIS MACHINE WITH R134A REFRIGERANT ONLY.

The machine is equipped with special connectors to recover, recycle, and recharge only R134a refrigerant. Do not attempt to adapt the machine 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 machine and the vehicle air conditioning system.

DO NOT USE THIS MACHINE IN DIRECT SUNLIGHT. Position the machine far from heat sources, such as direct sunlight which can cause excessive temperatures. The use of this machine under normal environmental conditions (10°C to 50°C) keeps pressures under reasonable limits.



DO NOT USE THIS MACHINE OUTDOORS DURING RAIN OR HIGH HUMIDITY. Protect the machine from conditions that may cause electrical failure or other hazards relating to ambient interaction.

DO NOT USE THIS MACHINE IN AREAS WHERE THERE IS A RISK OF EXPLOSION.

SET UP THE MACHINE ON AN EVEN SURFACE AND UNDER SUFFICIENT LIGHTING. LOCK THE FRONT WHEELS, AND DO NOT SUBJECT THE MACHINE TO VIBRATION.

Further information regarding health and safety may be obtained from the refrigerant manufacturer.

Protective Devices

Robinair No. 34788NI/34788NI-H is equipped with the following protective devices :

- Over pressure valves.
- A maximum pressure switch stops the compressor when excessive pressure is sensed.



WARNING: Tampering with these protective devices could result in serious injury.

Refrigerant Tank Test

Official records and recurring tests necessary for pressurized instruments are governed by laws and / or national regulations depending on the country where the refrigerant tank is used. The system manager is responsible for respect of laws, regulations, and technical rules. During normal service, refrigerant tanks do not need maintenance. Refer to the Maintenance section of this manual for more information.

The Robinair No. 34788NI/34788NI-H machine is used on R134a equipped vehicles and is designed to be compatible with existing service equipment and standard service procedures. This machine is a single-pass system (i.e. refrigerant flows through a filter once) that meets specifications for recycled refrigerant. Follow recommended service procedures for the containment of R134a.

Note: Refrigerant systems require special oils. Refer to the A/C system manufacturer's service manual for oil specifications.



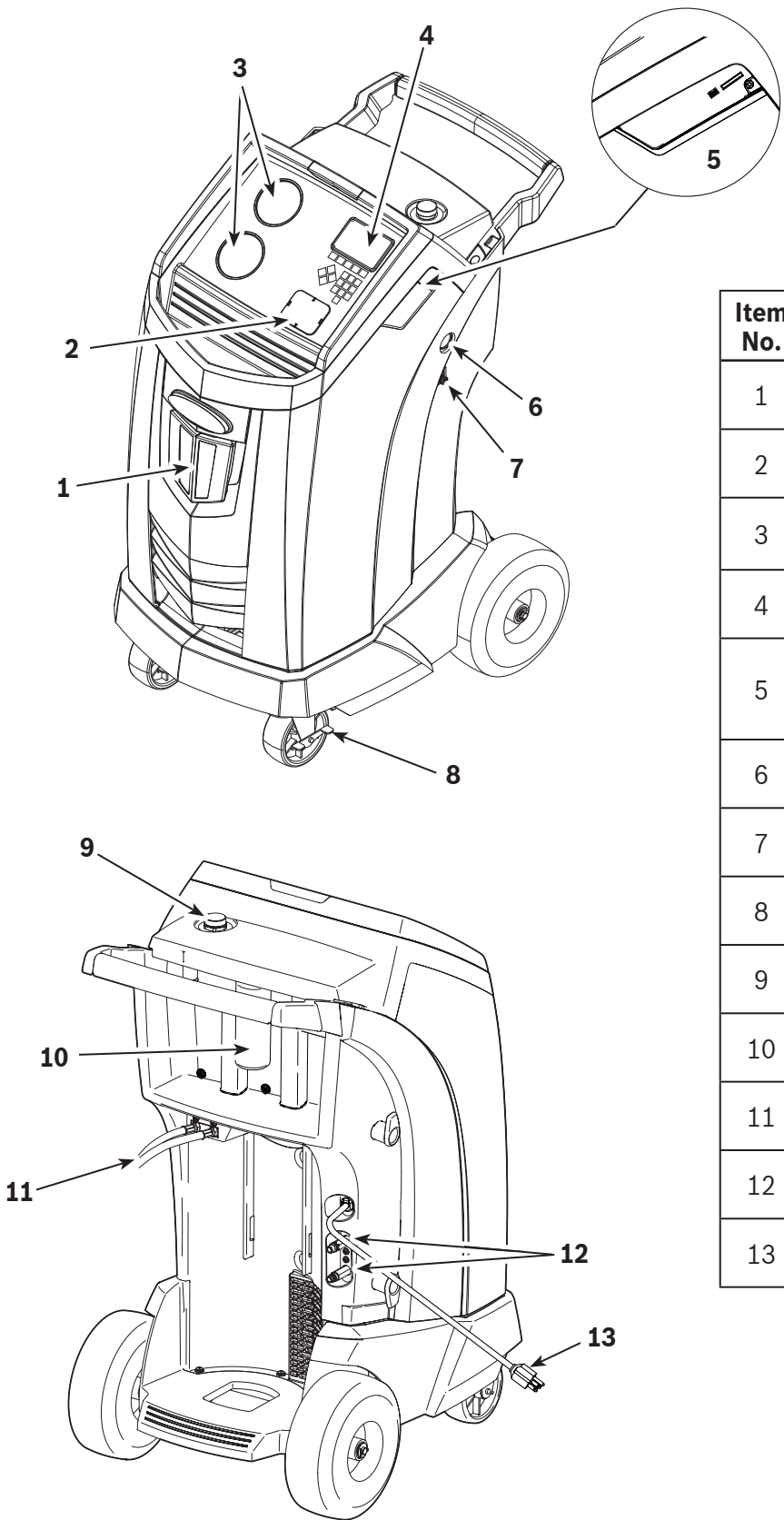
34788NI shown

Technical Specifications

Compressor	.....1/3 HP
Dimensions	.....107 cm x 61 cm x 76 cm
Display	.....3.94 x 6.34 cm graphical LCD
Filter	.....150 kg
Humidity	.....32.2°C (90°F), 80% RH non-condensing
Manometer	..... Ø 100 mm (3.9 in.)
Maximum Pressure	..... 27 bar (390 PSI)
Noise	..... <70 dB(A)
Nominal Voltage	.....115V, 60 Hz
Oil Tank	.....355 ml
Operating Temperature	.....10°C to 50°C
Power Consumption	.....1380 VA
Pump Free-Air Displacement	.. 1.5 CFM (35 l/m) 50 Hz
Service Hoses	..... 250 cm / SAE J2196
Tank Capacity	..... 10 kg (22 lbs)
Weight	..... 73 kg

Introduction

Features of the 34788NI/34788NI-H



Item No.	Description
1	Oil Drain Bottle
2	Printer Cap
3	Low-side (blue) and High-side (red) Manifold Gauges.
4	Graphic Display and Keypad
5	USB and SD card Connections; 2224V _{RMS} double insulation in respect to main lines
6	Vacuum Pump Oil Sight Glass
7	Vacuum Pump Oil Drain Fitting
8	Wheel Lock
9	Vacuum Pump Oil Fill Cap and Port
10	Oil Inject Bottle
11	Service Hoses
12	Service Hose Storage Ports
13	Power Cord

Control Panel Functions

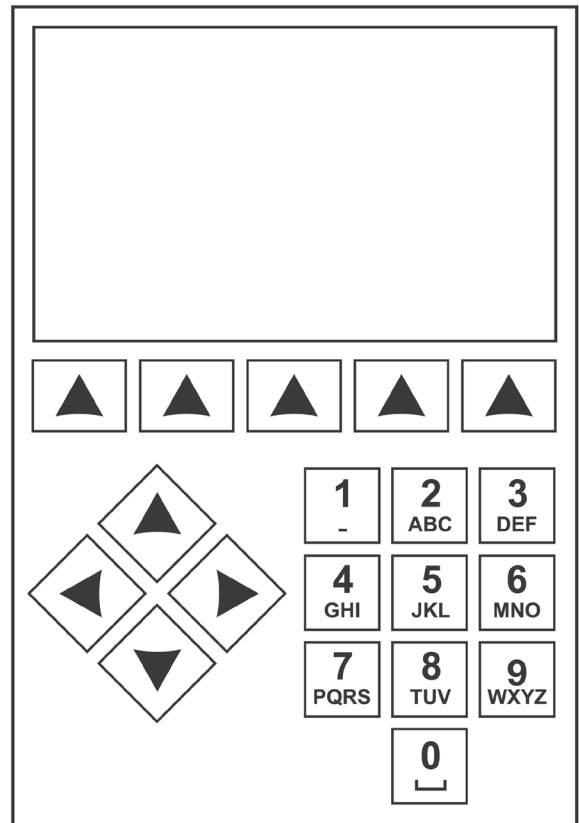
ARROW UP moves selection of a menu item to the previous item.

ARROW DOWN moves selection of a menu item to the following item.

ARROW RIGHT scrolls to next screen.

ARROW LEFT scrolls to previous screen.

SELECTION ARROWS make a selection or answers a query.



Control Panel Keypad

Introduction

Symbol Legend



AUTOMATIC SYMBOL - Pressing the key under this icon will enter the automatic refrigerant recovery, vacuum, and charge process.



RECOVER SYMBOL - Pressing the key under this icon will enter the refrigerant recovery process.



VACUUM SYMBOL - Pressing the key under this icon will enter the system vacuum process.



CHARGE SYMBOL - Pressing the key under this icon will enter the refrigerant charge process.



NEXT/FORWARD SYMBOL - Pressing the key under this icon will proceed to additional menu selection options, or proceed to an additional step in a function or process.



BACK SYMBOL - Pressing the key under this icon will return to previously seen menu selection options, or return to the previous screen within a function or process.



HELP SYMBOL - Pressing the key under this icon will provide help and information corresponding to the current screen and/or function being viewed or performed.



DATABASE SYMBOL - Pressing the key under this icon will enter the vehicle database retrieval process.



SETUP MENU SYMBOL - Pressing the key under this icon will enter the Setup Menu.



YES/ACCEPT SYMBOL - Pressing the key under this icon will accept any choices made on the current screen and proceed to the next step of the function.



NO/CLOSE SYMBOL - Pressing the key under this icon will reject any choices made on the current screen and return to the previous step of the function or the Main Menu.



RETRY SYMBOL - Pressing the key under this icon will retry the current process or function.



CHARGE PATH SELECTION SYMBOL - Pressing the key under this icon will toggle the desired path of refrigerant charge between high side, low side, and both side.



OIL INJECT BOTTLE SELECTION SYMBOL - Pressing the key under this icon will toggle which bottle will be utilized to inject oil during the subsequent charge. (Only applicable on machines with more than oil inject bottle)



ON/OFF SYMBOL - Pressing the key under this icon will toggle the highlighted function on or off as desired.



BACKSPACE SYMBOL - Pressing the key under this icon will delete a text character to the left of the current selection.



PAUSE SYMBOL - Pressing the key under this icon will pause the current process.



RESUME SYMBOL - Pressing the key under this icon will resume a process that has been paused.



PRINT SYMBOL - Pressing the key under this icon will print a summary corresponding to the current completed process.



DELETE SYMBOL - Pressing the key under this icon will delete a selected entry from the memory of the machine.

Introduction

Setup Menu Functions

Access the following functions by pressing the Menu key and selecting Setup.

Calibration Check

Use to verify internal scale calibration. Refer to *Calibration Check* in the Maintenance section of this user manual.

Edit Print Header

Programs information that will appear on the printout each time a print function is used.

Filter Maintenance

The filter removes acid, particulates, and moisture from the refrigerant. To meet requirements, it is mandatory to replace the filter after 150 kg (331 lbs.) of refrigerant has been filtered.

This menu item displays the filter capacity remaining until the machine locks down and no longer functions. Refer to *Filter Maintenance* in the Maintenance section.

Flush Hoses

Flushes residual oil from the machine's service hoses to prepare for service of next vehicle.

Production Menu

For Robinair production use only.

Pump Maintenance

Displays the amount of time remaining until the next vacuum pump oil change is needed. For maximum vacuum pump performance, change vacuum pump oil every time the filter is replaced. Refer to the *Change Vacuum Pump Oil* in the Maintenance section.

Refrigerant Management

Displays the amount of refrigerant recovered, charged, and replenished (for the life of the machine), and filtered since the last filter change.

Select Language

Select a language for screen prompts. English is the default language.

Service Menu

For Robinair service center use only.

Select Units

Program the machine to display units of measure in kilograms or pounds. The default display is kilograms.

Date and Time

Program the machine for current date and time.

System Flush

Provides a method of removing oil by forcing liquid refrigerant through an A/C system or components of an A/C system. After flushing, the refrigerant is recovered by the machine and filtered by the recycling circuit.

System Information

Displays the revision level of the software in the machine.

Tank Fill

Use this Setup Menu item to transfer refrigerant from a source tank to the ISV. The tank fill value may be adjusted up or down to suit the user's needs. Refer to *Tank Fill* in the Maintenance section.

Unit Activation

Failure to register and activate the machine within 30 days of initial startup will cause the machine to lock out and no longer function. Select this Setup Menu item and follow the prompts before the trial period expires.

View Service Data

Displays vehicle information that was entered into the Enter Service Data screen. Vehicles are displayed by date of service and VIN number. The database stores 25 VIN entries.

Hose Equalize

Use this Setup Menu item to recover refrigerant from the service hoses back into the vehicle A/C system. This item is useful after performing diagnostics which do not require the need to recover the A/C system into the RRR machine. You will be prompted to connect the low side service hose to the appropriate port and to start the vehicle's A/C system on max.

Unpack the Machine

1. Remove the bandings from the box.
2. Remove the top carton infold, the molded pulp tray, and the angle boards.
3. Remove the sleeve from the bottom carton infold.
4. Gently roll the unit forward and off the pallet, avoiding any sudden shocks to the machine.

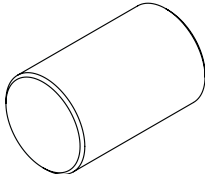


WARNING: To prevent personal injury while working with refrigerant, read and follow the instructions and warnings in this manual, and wear protective equipment such as goggles and gloves.

Unpack the Accessory Kit

Unpack the accessory kit from the box, and remove the plastic packaging.

Accessory Kit

Calibration Weight 533 g		
Pouch containing the user manual, warranty card to be filled out and mailed, Material Safety Data Sheets (MSDSs), and service center list.		

Power Up the Machine

1. Unwind the power cord from the handle, and plug it into a correct voltage, grounded outlet.
2. Position the machine so the plug and the power switch are of easy access for the operator. Verify the fan vents on the rear of the machine are not obstructed.
3. Lock the front wheels.
4. Toggle the power switch on the control panel to turn the machine ON.

The machine launches into the initial **Setup** mode.

Initial Setup

Select Language

The operator selects the language for the screen prompt displays. English is the default language.

1. Use the **UP** or **DOWN** arrow key to toggle through the available languages one line at a time.
2. Press the **✓** key to set the selected language.

Note: To update an existing language or to add a new language, refer to Load Language in the Maintenance section of this manual.

Select Units

The operator sets the display for units of measure. Metric is the default.

1. Use the **UP** or **DOWN** arrow key to toggle Imperial or Metric units.
2. Press the **✓** key to choose the displayed unit of measure.

Set Date and Time

Use the arrow keys to move the cursor. Use the keypad to modify the information displayed.

1. Use the **UP** and **DOWN** arrow keys to select which item to change: day, month, year, or time. Press **I/O** to toggle between AM and PM.
2. Use the multi-tap interface on the numeric keypad to modify the information.
3. Press the **✓** key to save.

Edit Print Header

This machine has the capability to store recovery, vacuum, charge, and flush information for up to 25 vehicles. The information loaded into Edit Print Header will appear on each printout. If you want to add a printer to your machine, refer to Printer Installation in the Maintenance section of this manual.

1. Enter text by using the arrows and the multi-tap interface on the numeric keypad:
 - **LEFT** arrow and **✕** key acts as backspace keys.
 - **RIGHT** arrow moves the cursor to the right.
 - **ZERO (0)** key acts as a spacebar when double tapped.
 - **UP** and **DOWN** arrows navigate between the rows.
2. Press the **✓** key to save/exit the function; press the **✕** key to return to the previous header without saving data.

Service Vacuum

At this point the machine clears its internal plumbing before proceeding with setup.

1. Check the vacuum pump oil level sight glass and verify the oil level is at the center of the sight glass.
2. When prompted, connect the service hoses from the machine to their storage ports as shown in Figure 1. Press the ► key to continue.
3. The machine enters a 5-minute vacuum and will automatically enter the next set-up process when complete.

Select Oil Viscosity (34788NI model)

The oil inject functionality in this machine is automatic and timing based. The viscosity of the oil being injected significantly affects the accuracy.

1. Using the arrow keys, highlight your desired PAG oil viscosity (46, 100, 125, or 150). Once highlighted, press the ✓ key to accept your choice.
2. The unit is now ready to accurately inject your chosen oil.

Adjust Background Fill Target

This machine possesses a background tank fill feature. An external refrigerant storage vessel can be fluidly connected to the machine (using the black tank fill hose) for a continuous topping off of the internal storage vessel. Drawing from the refrigerant within the connected external storage vessel, the machine will periodically charge the ISV tank to the desired fill target.

Using the arrows and the numeric keypad, enter the desired fill target (default amount is 6.8 kg).

Tank Fill

This procedure transfers refrigerant from a source tank to the internal storage vessel (ISV) in the machine. The maximum capacity of the ISV is 10 kg (22 lbs). Use arrow keys to move the cursor; use the keypad to enter a value.

1. The machine displays fields for desired tank fill amount, charge capacity, and the amount of recoverable refrigerant (recover capacity) within the internal storage vessel. Enter the

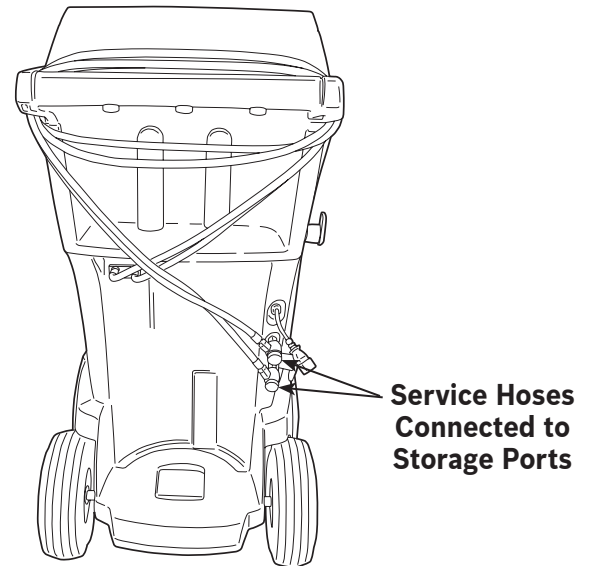


Figure 1

Note:

Charge Capacity: The amount of refrigerant in the ISV that can be charged into a vehicle A/C system.

Recover Capacity: The amount of additional refrigerant that could be recovered into the ISV.

Initial Setup

Tank Fill contd.

desired tank fill amount. *Note: Add at least 3.6 kg of refrigerant to ensure enough is available for charging.*

2. Connect the tank fill (black) hose to the liquid connector on the source tank.
3. Open the source tank valve.
4. Position the source tank in such a way that liquid refrigerant is supplied to the connection.
5. Press the ✓ key to start the tank fill process. The machine begins filling the internal storage vessel (ISV). Add at least 3.6 kg of refrigerant to ensure enough is available for charging. This process takes 15 – 20 minutes.
6. The machine stops when the designated amount of refrigerant has been transferred to the ISV or when the source tank is empty. Follow the messages on the display screen.
7. Close the source tank valve.
8. Press the ✓ key to return to the Setup Menu.

The machine is ready for operation.

Note:

- *There is no need to calibrate the scale; it is calibrated at the factory.*
- *After the tank fill process is complete, the display does not show the same amount as the programmed fill level.*
The display shows the amount of refrigerant that is available for charging, which is approximately 1.27 kg less than the total amount of refrigerant in the tank.

Unit Activation

Failure to register and activate the machine within 30 days of initial startup will cause the machine to lock out and no longer function.

1. Select Unit Activation from the Setup Menu. The machine displays

XX DAYS LEFT ON TRIAL
PERIOD TO ACTIVATE UNIT.
ACTIVATE NOW?

2. Press the **✓** key to start the activation process. The machine displays

PRODUCT ACTIVATION

PERSONAL PRODUCT CODE:
XXXXXXXXXXXX

FOR ACTIVATION CODE VISIT
[HTTPS://REGISTER.SERVICESOLUTIONSPORTAL.COM](https://register.servicesolutionsportal.com)

ENTER CODE:
XXXXXXXXXXXX

3. Open a web browser on a personal computer and enter the web address shown in Step 2.
4. Enter your user name and password, and log in to the website. Note: If you are a first-time user, click the REGISTER button to create a user name and password.
5. On the personal computer, enter the Personal Product Code of your machine to receive an activation code.
6. On the machine, enter the activation code into the correct field. Note: Enter the code exactly as received. Capitalization is required.
7. Record the activation code on a piece of paper and file it in a secure place. Press the **✓** key.
8. The machine displays

ACTIVATION SUCCESSFUL.

Press the **▶▶** key. The 34788NI/34788NI-H has been activated.

Operating Instructions — Enter Service Data

Enter Service Data

After selecting any service function, information about the vehicle may be entered into and stored in the machine's database.

1. The machine displays

ENTER SERVICE DATA NEW

2. Press the ✓ key to enter a new record, or scroll to select a previously serviced vehicle and press the ✓ key. The highlighted selection will be in red. The machine displays

ENTER SERVICE DATA
VIN: _____
MILEAGE: _____
MAKE: _____
MODEL: _____

3. Use the arrow keys to move between rows and the multi-tap keypad to enter text.



Information entered on this screen is stored by date and vehicle identification number (VIN). The database stores the most current 25 entries, with the most recent at the top of the list.

The information will also appear on service summary printouts if using the 34788NI/344788NI-H machine.

Operating Instructions – Recover



Recover Refrigerant from a Vehicle

1. Empty the oil drain bottle before starting a recovery. Remove the oil drain bottle from the machine by pulling the bottle straight down – do not use a twisting or rocking motion. Refer to Figure 2.
2. Connect the high-side (red) and low-side (blue) service hoses to the vehicle A/C system.
3. Open the coupler valves on the hoses by turning the collars clockwise.
4. While within the Main Menu, press the **RECOVER**  key on the control panel. The machine will enter the service data entry form. Enter all applicable data and press the  key to continue.
5. The machine begins the recovery process. The clicking noise indicates the solenoid is opening and closing – this is normal.
6. The machine runs a self-clearing cycle to clear any internal refrigerant from its internal plumbing.
7. System recovery begins and includes a timed vacuum, deep recovery process.



WARNING: To prevent personal injury while working with refrigerant, read and follow the instructions and warnings in this manual, and wear protective equipment such as goggles and gloves.

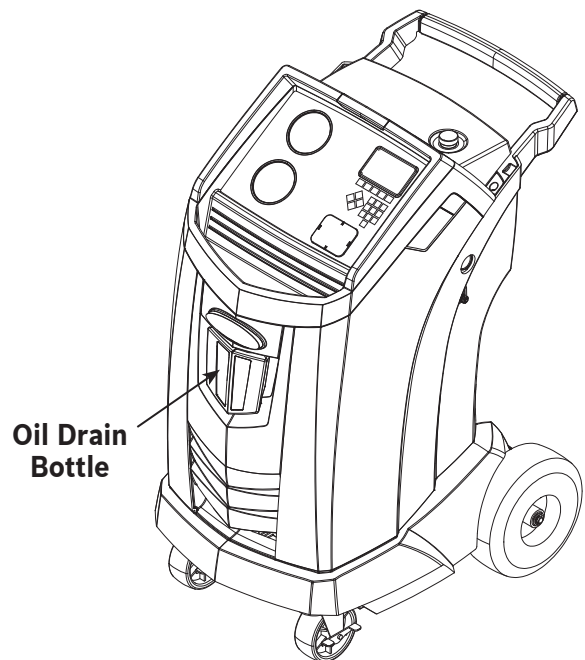



Figure 2


Operating Instructions — Recover

Recover Refrigerant from a Vehicle continued

8. After recovery, the machine will perform an oil drain, which may require up to 90 seconds to complete.
9. After the oil drain is complete, a summary is displayed showing the total amount of gas recovered. You are also prompted to “Check Oil Drain Bottle” to note how much oil was drained based on the graduations seen on the drain bottle. If your machine has a printer, you may print out recovery information and pre-recover diagnostics by selecting the  key. Press the ►► key to return to the Main Menu.



Note: The displayed recovered weight can vary depending on ambient conditions and should not be used as an indicator of scale accuracy.

10. The amount of oil that was removed from the A/C system is the amount of new oil that should be charged into the A/C system after evacuation is complete.
 - Use only **new** oil to replace the oil removed during the recycling process.
 - Dispose of used oil according to government regulations.

Recovery is complete. If your machine has a printer, you may print out vacuum information by selecting the  key. Press the ►► key to return to the main menu.




Evacuate the Vehicle A/C System

1. Connect the service hoses to the vehicle's service ports.
2. Open the service hose coupler valves by turning the collars clockwise.
3. While within the Main Menu, press the **VACUUM**  key on the control panel.
4. Select Vacuum Leak Check if desired to automatically perform a 5-minute pressure rise leak check after the vacuum.
5. Press the  key to accept the 15-minute default evacuation time, or enter a desired vacuum time using the number keys.

Note: The vacuum process will halt if pressure rises above .35 bar (5 psi). Recover refrigerant before proceeding.

6. The machine pulls a vacuum on the A/C system for the programmed amount of time.
7. The machine stops when the specified amount of time has elapsed.

If your machine has a printer, you may print out vacuum information by selecting the  key.

Press the  key to return to the Main Menu.



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Operating Instructions — Flush Hoses

Flushing the Hoses

If the next vehicle to be serviced contains a different type of oil than the previous vehicle serviced, it is recommended the service hoses be flushed of residual oil to prevent contamination.

1. Select **FLUSH HOSES** from the Setup Menu. The machine displays

CONNECT HOSES TO STORAGE PORTS
AND OPEN COUPLER VALVES.

2. Connect the service hoses to the machine's storage port connections as shown in Figure 3.
3. Open the service hose coupler valves by turning the collars clockwise.
4. Press the **✓** key to begin the hose flush process, which runs for three minutes, followed by a recovery.
5. When the hose flushing process is complete, the display reads

FLUSH HOSES
COMPLETE

Press the **▶▶** key to exit and return to the Setup Menu.

6. Close the coupler valves by turning the collars counterclockwise.



WARNING: To prevent personal injury while working with refrigerant, read and follow the instructions and warnings in this manual, and wear protective equipment such as goggles and gloves.

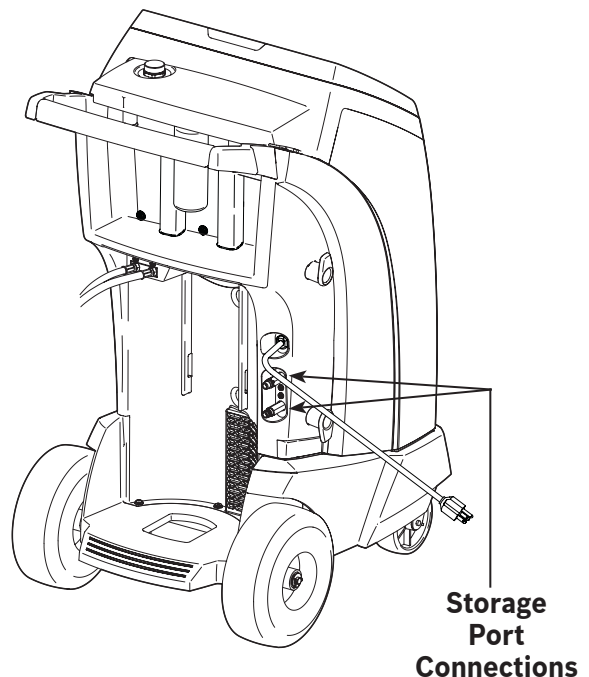




Figure 3






Operating Instructions – Charge



Recharge the Vehicle A/C System (34788NI model)

1. Connect **both** service hoses to the vehicle's service ports.
2. While within the Main Menu, press the **CHARGE**  key. You will be prompted to enter service data. Press the  key once complete to continue. The display shows

CHARGE: XX.XXX KG ON HIGH SIDE
ADDITIONAL OIL: XXX ML

3. Use the arrow keys and the numeric keypad to enter the desired charge amount.
4. Using the arrow key, maneuver to the “charge path selection”. High Side is default. To change, press the **CHARGE PATH**  key on the control panel. This will allow you to toggle between high, low and both side charge paths. The text will change on the display to your current selection. You may also choose to inject oil to the system during the charge. Use the numeric keypad to enter the desired oil inject amount. Make sure there is available oil in the oil inject bottle located on the backside of the machine. If injecting oil, you should also verify that the correct oil viscosity is currently set on your machine. See section **Select Oil Viscosity**.
5. Press the  key to start the charge process. Moving or bumping the machine at this point may result in an inaccurate charge. When the charge cycle gets close to the desired weight value, the machine slows down. It will charge, settle, charge again, settle, etc.
6. When the **CHARGE COMPLETE** screen appears, it includes a summary of charge results. If your unit has a printer, you may print out the summary by pressing the print  key. Press the  key to proceed to clear the service hoses.
7. You will be prompted to close the coupler valves and disconnect the hoses from the vehicle. Press the  key to recover any remaining refrigerant from the hoses. Once the hose clear is complete, you will be returned to the Main Menu.
8. The vehicle A/C system is now ready for use.



WARNING: To prevent personal injury while working with refrigerant, read and follow the instructions and warnings in this manual, and wear protective equipment such as goggles and gloves.


Note: The charging process differs from vehicle to vehicle. Charge function for vehicles equipped with a single-service fitting should be carried out manually. Refer to the vehicle service manual for specific instructions.

CAUTION: If the low-side (blue) or high-side (red) coupler valve is left open and connected during the hose clearing process, the system will pull refrigerant back out of the vehicle.

Operating Instructions — Charge




Recharge the Vehicle A/C System (34788NI-H model)

1. While within the Main Menu, press the CHARGE  key. The display shows:

Is the service being performed on a system with an electric compressor using POE oil?

2. If the system does not have an electric compressor with POE oil, press the **X** key to continue. If the system has an electric compressor with POE oil, press the **✓** key to flush all residual oil from the hoses. You will be prompted to “Connect service hoses to storage ports and open couple valves.” See Figure 1. Continuing will begin the process of flushing the hoses. Once complete, press the **▶▶** key to continue through the Charge process.
3. You will now be prompted to enter service data. Once complete, press the **✓** key to continue. The display shows:

CHARGE: XX.XXX KG ON HIGH SIDE

4. Connect both service hoses to the vehicle's service ports and open coupler valves.
5. Use the arrow keys and the numeric keypad to enter the desired charge amount.
6. Using the arrow key, maneuver to the “charge path selection”. High Side is default. To change, press the CHARGE PATH **HS LS** key on the control panel. This will allow you to toggle between high, low and both side charge paths. The text will change on the display to your current selection.
7. Press the **✓** key to start the charge process. Moving or bumping the machine at this point may result in an inaccurate charge. When the charge cycle gets close to the desired weight value, the machine slows down. It will charge, settle, charge again, settle, etc.
8. When the CHARGE COMPLETE screen appears, it includes a summary of charge results. If your unit has a printer, you may print out the summary by pressing the print  key. Press the **▶▶** key to proceed to clear the service hoses.


9. You will be prompted to close the coupler valves and disconnect the hoses from the vehicle. Press the **▶▶** key to recover any remaining refrigerant from the hoses. Once the hose clear is complete, you will be returned to the Main Menu.
10. The vehicle A/C system is now ready to use.

Operating Instructions — Automatic




Automatic Function

The **AUTOMATIC** function allows a user to perform an automatic recovery, vacuum, leak test, and / or charge sequence. A total automatic sequence may take up to an hour to complete.

1. Connect high-side (red) and low-side (blue) service hoses to the A/C system.
2. Open the service hose coupler valves by turning the collars clockwise.
3. While within the Main Menu, press the **AUTOMATIC**  key on the control panel. The display shows:

VACUUM TIME: XX:XX
VACUUM LEAK TEST: ON
CHARGE: XX.XXX KG ON HIGH SIDE
ADDITIONAL OIL: XXX ML

4. Use the numeric keypad to enter the desired length of vacuum.
5. Using the arrow key, maneuver downwards to the choose whether to perform a vacuum leak test or not. **ON** is the default setting. To toggle, press the I/O key on the control panel.
6. Using the downwards arrow key, maneuver to the “charge amount” entry field. Use the arrow keys and numeric keypad to enter the desired charge amount.
7. Using the arrow key, maneuver to the “charge path selection”. High Side is default. To change, press the **HS/LS** key on the control panel. This will allow you to toggle between high, low, and both side charge paths. The text will change on the display to your current selection.
8. Using the arrow key, maneuver to the “additional oil” entry field. Use the numeric keypad to enter the desired additional oil inject amount.
9. Press the  key to begin the **AUTOMATIC** cycle. Your unit will now automatically proceed through all applicable functions: **RECOVER**, **VACUUM**, AND **CHARGE**. If the vehicle being serviced has previously undergone a recover and vacuum procedure, the machine will only perform a **CHARGE**.

10. When the **AUTOMATIC COMPLETE** screen appears, it includes a summary of result. If your unit has a printer, you may print out the summary by pressing the print key. Press the **▶▶** key to proceed.

11. You will be prompted to close the coupler valves and disconnect the hoses from the vehicle. Press the **▶▶** key to recover any remaining refrigerant from the hoses. Once the clear is complete, you will be returned to the Main Menu.

12. The vehicle A/C system is now ready to use.



WARNING: To prevent personal injury while working with refrigerant, read and follow the instructions and warnings in this manual, and wear protective equipment such as goggles and gloves.

Information About Automatic Function

- The **CHARGE** function for vehicles equipped with a single-service fitting should be carried out manually according to procedures in the vehicle manufacturer’s service manual.
- After the **RECOVER** process, you will be prompted to “Check oil bottle and enter oil to be injected”. The entered oil inject amount should be equal to the amount of oil drained, and can be found by looking at the graduations on the drain bottle.
- If **RECOVER** was not performed, the amount of oil to be injected may be entered while programming the **CHARGE** information.
- If problems are encountered during the automatic sequence, an audio alert sounds three times. The sequence remains paused until the user enters a decision regarding how to proceed.

Operating Instructions — System Flush

System Flush

The **SYSTEM FLUSH** function is performed using a vehicle manufacturer-approved flushing adapter. Refer to the instructions included with the adapter also as you perform the following steps.

1. Verify the flusher filter and strainer are not plugged.
2. Mount the flusher to the rear of the Robinair machine. Do not make any connections at this time.
3. Remove the oil drain bottle (see Figure 4) from the Robinair machine. Drain the oil bottle, and dispose of the oil according to regulations in your area. Reinstall the oil drain bottle on the machine.
4. Recover all refrigerant from system to be flushed.
5. Note the amount of oil collected during recovery. This amount must be replaced, as well as any oil collected during flush.

Note: The amount of oil collected and reported during System Flush does not include the amount of oil collected during the initial recovery.

6. Verify there is at least 6.0 kg (13.2 lb.) of refrigerant in the Robinair machine. The machine will not be able to complete a system flush without at least 6.0 kg of refrigerant in the ISV.

Note: If the machine does not have at least 6.0 kg (13.2 lb.) of refrigerant on-board, see the section of this manual titled Tank Fill.

7. Disconnect the Robinair machine from the vehicle.
8. Refer to the vehicle service manual, and connect the appropriate flushing adapters and bypasses.
9. Connect the low-side (blue) service hose directly to the filter of the flushing kit.
10. Remove the high-side (red) service coupler, and connect the high-side (red) service hose to the system suction line adapter.
11. Use the supplied hose to connect the system discharge adapter to the flusher inlet.
12. Connect hoses according to the instructions included with the flush kit.



WARNING: To prevent personal injury while working with refrigerant, read and follow the instructions and warnings in this manual, and wear protective equipment such as goggles and gloves.

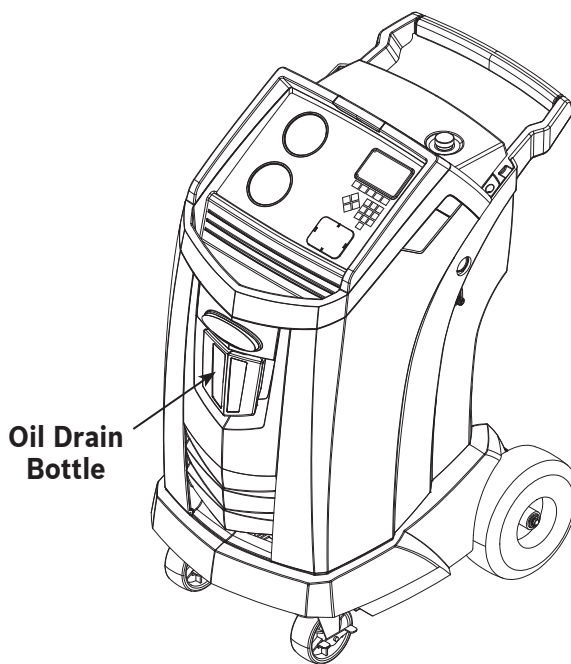




Figure 4

Operating Instructions – System Flush

System Flush contd.

13. Select **SYSTEM FLUSH** from the **SETUP MENU**.
The unit will prompt you to enter any service data if desired. Press the ✓ key to continue to the system flushing process.
14. Depending on the particular flush process that is enabled on your model of machine, you may or may not be prompted to enter in a total “Flush Time”.
15. The machine will then automatically enter the **Vacuum** process and proceed to a leak test.
16. Once the vacuum and leak tests are completed, the unit will enter the actual system flushing process, followed by an oil drain.
17. When the Flush Complete screen appears, it includes a system flush result summary. If your unit has a printer, you may print out the summary by pressing the  key. Press the ►► key to return to the **SETUP MENU**.
18. The vehicle A/C system has been flushed.

 **WARNING:** Do NOT disconnect service couplers during the flushing process. Refrigerant could spray out of the fittings, and exposure may cause personal injury.

CAUTION: The flushing kit has a replaceable filter as well as a debris strainer, both of which can get plugged. At the end of the flush cycle, check the high-side (red) gauge for system pressure, and check the adapter for complete removal of refrigerant.

If pressure exists or refrigerant remains, exit the flushing cycle and enter the recovery mode to recover refrigerant through both the high-side (red) and low-side (blue) hoses. Then service the filters and repeat the flush process.

Maintenance

Maintenance Schedule

Maintenance Task	Recommended Interval
Change filter	After 150 kg (331 lbs.) of refrigerant has been filtered. Refer to Filter Maintenance in the Maintenance section of this manual.
Change vacuum pump oil	When the filter is replaced. Refer to Change Vacuum Pump Oil in the Maintenance section of this manual.
Check casters and wheels for ease of operation	Monthly.
Check internal scale calibration	Monthly. Refer to Calibration Check in the Maintenance section of this manual.
Check machine for leaks	Monthly. Check hoses and connections for leakage. Disconnect power, remove the shroud, and use an electronic leak detector to check fittings.
Clean air intake panels (see Figure 5)	Monthly. Use a clean cloth.
Clean cabinet and control panel	Monthly. Use a clean cloth.
Inspect power cord and hoses for cuts and abrasions	Daily.
Lubricate wheel bearings and inspect brake components	Monthly.
Pressure Test	Every 10 years – performed by an authorized Robinair service center.

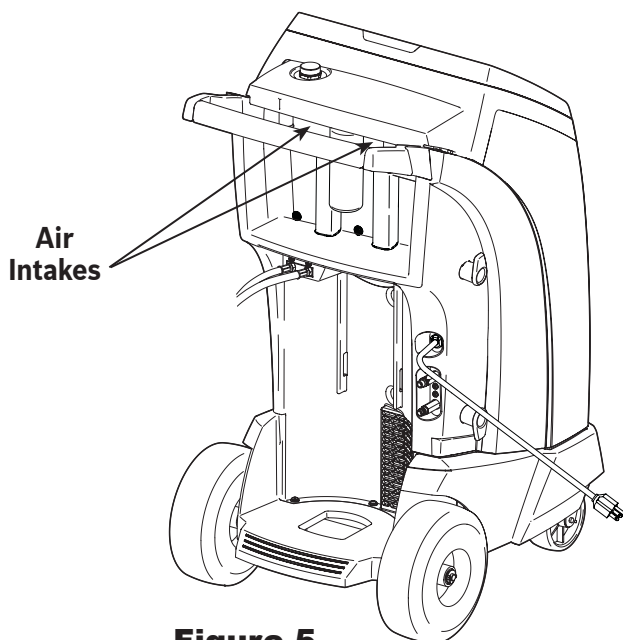


Figure 5

WARNING: To prevent personal injury,



- Only qualified personnel may perform inspections and repairs to this machine.



- Read and follow instructions and warnings in this manual.



- Wear protective equipment such as goggles and gloves.

Electrical Protection

The machine is equipped with a circuit breaker on the center divider as shown in Figure 6. If the breaker trips, its button will pop out. A tripped circuit breaker will cause the machine to lose all power.

1. Remove the front shroud.
2. Press the circuit breaker button to reset.
3. Replace the shroud.

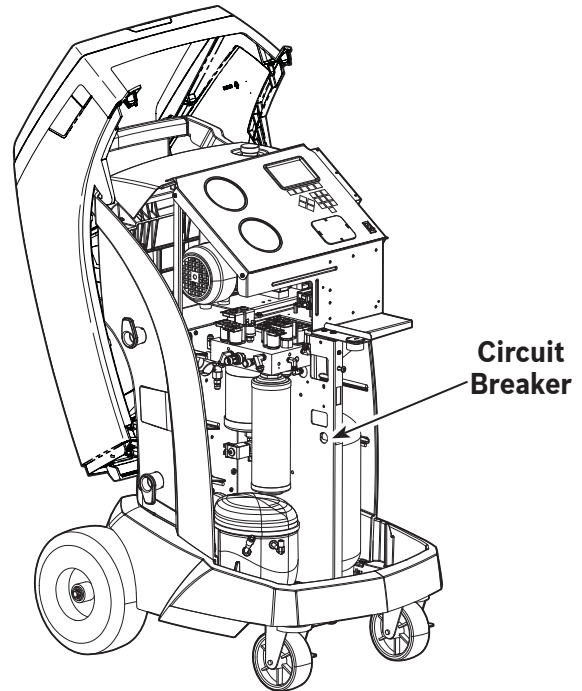


Figure 6

Load Language

Use the following instructions to add or update a language from an SD card.

1. Choose **SELECT LANGUAGE** from the Setup Menu.
2. Use the arrow keys to scroll to LOAD NEW. Press the ✓ key.
3. Insert the SD card containing the language data into the side panel on the machine. See Figure 7.
4. Follow the prompts to select the language to load or update. If loading a new language, it will be necessary to select which language to replace.

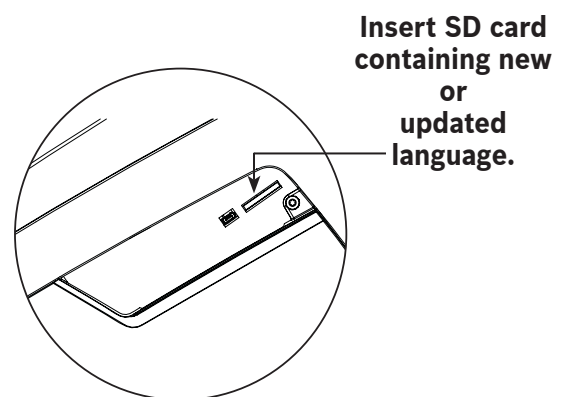


Figure 7

Maintenance

Adjust Background Fill Target

This machine possesses a background tank fill feature. An external refrigerant storage vessel can be fluidly connected to the machine (using the black tank fill hose) for a continuous topping off of the internal storage vessel. Drawing from the refrigerant within the connected external storage vessel, the machine will periodically charge the ISV tank to the desired fill target.

1. To choose the background refrigerant fill target of the machine, find **Adjust Background Fill Target** in the **SETUP MENU**.
- 2 Using the arrows and the numeric keypad, enter the desired fill target. Press the ✓ key to save the new value and exit. Press the ✕ key to exit and continue to use the previously entered amount.

Tank Fill

This menu item is used to transfer refrigerant from a source tank to the ISV.

The maximum capacity of the internal storage vessel (ISV) is 10 kg. Use the arrow keys to move the cursor; use the keypad to enter a value. Note: Add at least 3.6 kg of refrigerant to ensure enough is available for charging.

1. Connect the tank fill (black) hose to the liquid connector on a full source tank.
2. Position the source tank in such a way that liquid refrigerant is supplied to the connection. Open the source tank valve.
3. Select **TANK FILL** from the Setup Menu. The machine displays

TANK FILL
FILL AMOUNT: XX.XYY

CHARGE CAPACITY: XX.XXYY
RECOVER CAPACITY: XX.XXYY

4. Enter the quantity to recover, and press the ✓ key. Add at least 3.6 kg of refrigerant to ensure enough is available for charging.

5. The machine begins filling the ISV and automatically stops when the preset tank fill level is reached. To stop the tank fill before the preset level is reached, press the || key. An option to exit will appear on the display.
6. Once complete, remove the hose from the source tank.

Filter Maintenance

The filter is designed to trap acid and particulates, and to remove moisture from refrigerant. To meet the mandate for adequate moisture and contaminant removal, the filter must be replaced after 150 kg (331 lbs.) of refrigerant has been filtered.

The machine gives a warning when 125 kg (276 lbs.) of the filter capacity has been used; the machine locks down when the 150 kg (331 lb.) filter capacity has been reached and will no longer function.

Check Remaining Filter Capacity

1. Select **FILTER MAINTENANCE** from the Setup Menu or when the machine prompts. The machine displays

REMAINING FILTER CAPACITY:
XXX.XO KG
REPLACE FILTER NOW?

The machine displays the amount of filter capacity remaining until the machine locks down.

2. Press the ✓ key to change the filter; press the ✕ key to resume using the machine.

⚠ WARNING: The components in the machine are under high pressure. To prevent personal injury, change the filter only when the machine prompts.

Replace the Filter

1. If the ✓ key was selected to change the filter, the machine prompts for the new filter code to be entered.

ENTER NEW FILTER SERIAL NUMBER

Use the keypad to enter the serial number that appears on the new filter and press ✓ to continue.

Note: If INVALID SERIAL NUMBER is displayed, the serial number has been incorrectly entered, or the filter has already been used in this machine.



WARNING: To prevent personal injury while working with refrigerant, read and follow the instructions and warnings in this manual, and wear protective equipment such as goggles and gloves.

Caution: To prevent equipment damage, use only authentic Robinair No. 34724 filters in this machine. All performance tests and claims are based on using this specific filter.

Maintenance

Filter Maintenance continued

2. The machine clears the existing filter and then displays:

SERIAL NUMBER ACCEPTED
TURN POWER OFF AND REPLACE FILTER

Shut off the machine. Remove the oil bottle. Remove the four screws holding the shroud. See Figure 8.

3. Hang the shroud on the back of the machine as shown in Figure 9.
4. Remove the filter by turning it counterclockwise (as viewed from the bottom of the filter).
5. Look at the new filter - verify both o-rings are lubricated and correctly located in the grooves as shown in Figure 9.
6. Install the new filter by threading it clockwise into place. Verify the filter is positioned correctly as shown in Figure 9. Tighten the filter to 20 Nm.

Remove the four screws holding the shroud.

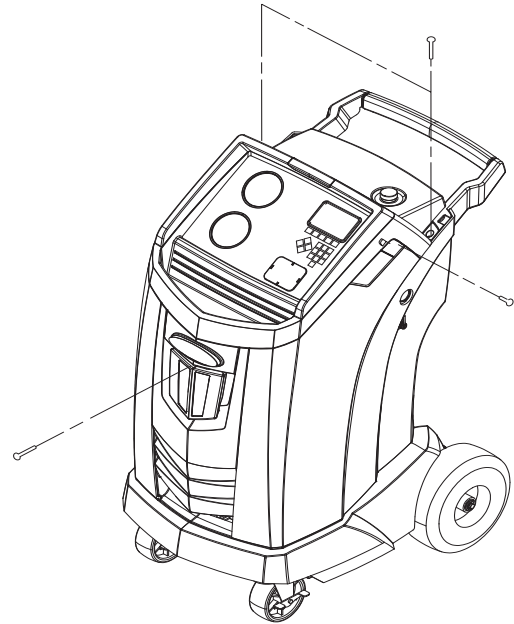


Figure 8

Hang Shroud Here

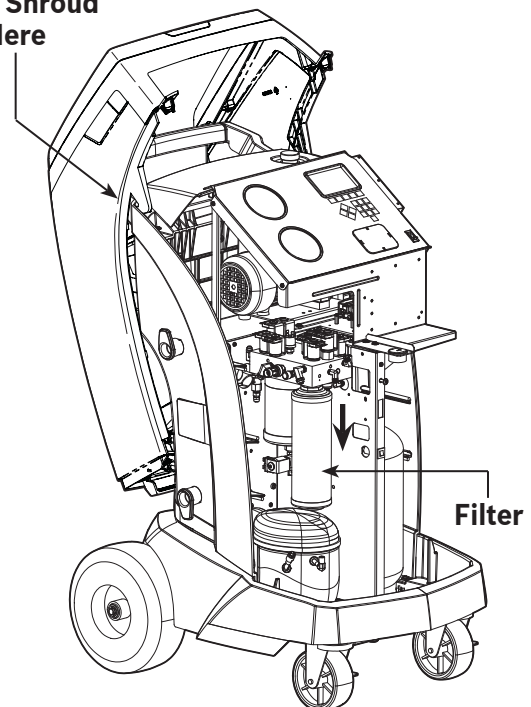


Figure 9

Calibration Check

This function is used to ensure the machine's internal scale is always calibrated. During this test, use only the calibration weight that is provided with the machine.

1. Refer to Figure 10, and verify the magnet on the bottom of the machine is clean.
2. Select **CALIBRATION CHECK** from the Setup Menu. The machine displays

PLACE CALIBRATION WEIGHT ON MAGNET
LOCATED ON THE BOTTOM OF THE UNIT

3. Attach the calibration weight to the magnet on the bottom of the machine. Select the ✓ key to continue.
4. The machine displays

REMOVE CALIBRATION WEIGHT FROM MAGNET
LOCATED ON THE BOTTOM OF THE UNIT

Remove the calibration weight from the magnet. Select the ✓ key to continue.

- If the display shows

CALIBRATION CHECK PASSED

the scale is in calibration. Select the ►► key to return to the Setup Menu.

- If the display shows

CALIBRATION CHECK FAILED. RETRY?

the scale is out of calibration. You may press the ↺ key again to retry. If calibration continues to fail, contact an authorized Robinair service center for assistance.

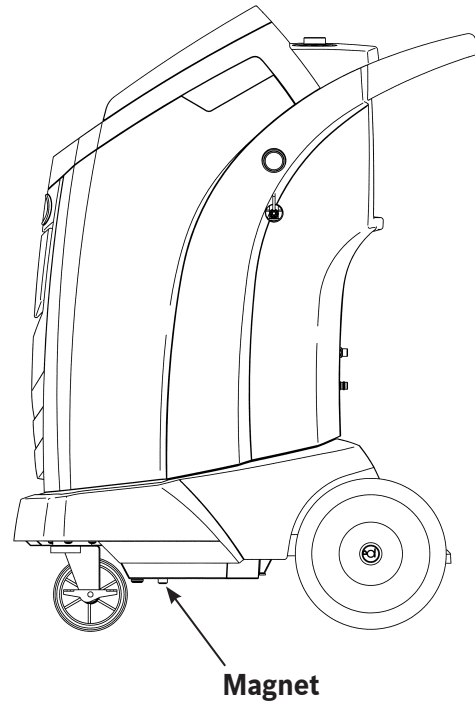


Figure 10

Maintenance

Change Vacuum Pump Oil

1. Select **PUMP MAINTENANCE** from the Setup Menu or when prompted. The display shows how long the vacuum pump has operated since the last oil change.

OIL LIFE REMAINING
XXX:XX (HHH:MM)
CHANGE OIL NOW?

2. Press the **✓** key to change vacuum pump oil. If the machine displays

WARMING OIL FOR DRAIN
XX:XX

allow the vacuum pump to run for two minutes to warm up the oil. If the oil is already warm, the display shows

DRAIN USED OIL FROM PUMP
AND REPLACE WITH 150 ML OF NEW OIL
REMOVE FILL CAP TO SPEED DRAINING OF OIL

3. **SLOWLY** open the oil fill cap to verify there is no pressure in the machine. Then carefully remove the cap. See Figure 11.
4. Remove the oil drain fitting cap and drain the oil into a suitable container for disposal. Replace the cap and close tightly. Press the **▶▶** key to continue.
5. The machine displays

FILL VACUUM PUMP TO THE CENTER
OF THE SIGHT GLASS
REPLACE FILL CAP

Slowly add vacuum pump oil to the pump through the oil fill port until the oil reaches the center of the sight glass. Install the cap on the oil fill port and close tightly. Press the **▶▶** key to return to the Pump Maintenance screen.

⚠ CAUTION: To prevent personal injury, do NOT operate the machine at any other time without the oil fill port cap installed, because the vacuum pump is pressurized during normal operation.

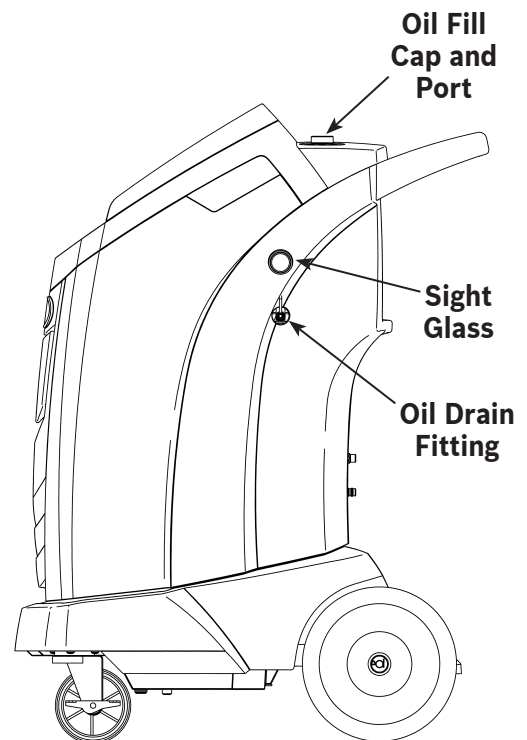


Figure 11

Caution: It is the responsibility of the user to monitor vacuum pump oil level and clarity. If contaminated oil is not removed from the vacuum pump and replaced, the vacuum pump will be permanently damaged.


Leak Check

A leak test may be performed on the machine at any time. During this test, components containing refrigerant are pressurized and monitored for pressure decay, which could indicate a leak.

1. Select **LEAK CHECK** from the Setup Menu. The machine displays

CONNECT SERVICE HOSES TO STORAGE PORTS
AND OPEN COUPLER VALVES

Connect the service hose couplers to the storage ports at the rear of the machine. Open the couplers by turning the collars clockwise.

2. Press the  key to start. The machine performs a self-recovery and displays

RECOVER IN PROGRESS

3. The machine performs a 30-second vacuum test and displays

VACUUM LEAK CHECK IN PROGRESS


If the vacuum test fails, the machine will prompt to check for leaks.

4. Once the machine passes the vacuum test, a controlled pressure is applied to its internal components. The machine displays

PRESSURE LEAK CHECK IN PROGRESS

Pressure is held for five minutes and monitored for decay. Minutes and seconds count down on the display.

- If an acceptable pressure decay is detected, the machine recovers refrigerant and returns to the Setup Menu, ready for normal operation.
- If an unacceptable pressure decay is detected, the machine will prompt to check for leaks. Take the machine to an authorized Robinair service center for repair.

 **WARNING:** To prevent personal injury should the machine require transport to a local Robinair service center, follow local government regulations regarding transportation of equipment containing R134a.

Maintenance

Select Oil Viscosity (34788NI model)

The oil inject functionality in this machine is automatic and timing-based. The viscosity of the oil being injected significantly affects the accuracy.

1. To choose the viscosity of the oil being used, find **Select Oil Viscosity** in the **SETUP MENU**.
2. Using the arrow keys, highlight your desired PAG oil viscosity (46, 100, 125, or 150). Once highlighted, press the ✓ key to accept your choice.
3. The unit is now ready to accurately inject your chosen oil.

CAUTION: To avoid chemical incompatibilities with the internal components of the machine, use only oils approved by the vehicle manufacturer. Problems resulting from the use of non-approved oils will cancel the warranty.

Edit Print Header

To make changes to text that appears in this screen:

1. In the Setup Menu, select Edit Print Header.
2. The cursor is in the first field. Update the text by using the arrows and the multi-tap interface on the numeric keypad:
 - **⌫** arrow acts as a backspace key.
 - **RIGHT** arrow moves the cursor to the right.
 - **ZERO (0)** key acts as a spacebar.
 - **UP** and **DOWN** arrows navigate between the rows.
3. Press the **✓** key to save the changes and return to the Setup Menu; press the **✕** key to return to the previous header and exit to the Setup Menu.

Replace Printer Paper (Units with Printers)

To install a new paper roll in the printer:

1. Remove the cover on the printer by pulling out on the tab as shown in Figure 12.
2. Remove the paper core.
3. Install the new roll of paper with the end of the paper at the top of the roll.
4. Assemble the cover onto the printer with the leading edge of the paper over the roller.

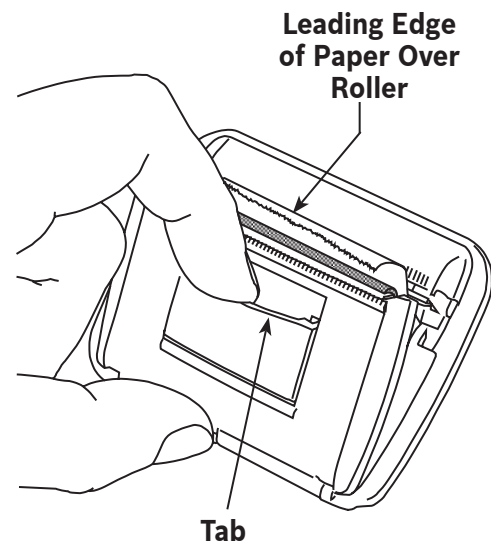


Figure 12

Maintenance

Install a Printer

A printer may be purchased and installed on any model not containing a printer. All models of the machine already contain a printer connection harness that is ready for use. To install a printer:

1. Turn **OFF** the machine and disconnect it from its power source.
2. Remove the four screws holding the shroud. See Figure 8.
3. Hang the shroud on the back of the machine as shown in Figure 9.
4. Remove the two screws on the top corners of the control panel, allowing the control panel to swivel forward.
5. The printer connection harness is fastened to the back of the cap that is in the printer location cut-out. Remove the zip tie, freeing the harness. The harness will be used in a later step.
6. Remove the cap from the printer location cut-out by pressing on the cap's tabs from the back of the control panel and pushing the cap out of the panel.
7. Remove the two locking arms from the printer by inserting the face of a flathead screwdriver under each tab near the back of its locking arm. Pry the tab outward while sliding the entire arm away from the printer.
8. Place the printer into the cut-out area on the control panel. Press the face of the printer flush to the panel, oriented with the paper coming out at the top of the printer as shown in Figure 12.
9. Replace the printer locking arms from within the inside of the control panel. Push them forward until they come into firm contact with the inside face of the control panel.
10. Locate the free end of printer connection harness which was detached from the cap in Step 5.
11. Attach the two free connectors to the appropriate connectors on the back of the printer.
12. Swivel the control panel back into place and fasten it using the two screws removed in Step 4.
13. Assemble the shroud back onto the machine and install the four screws removed in Step 2.

The printer is now ready for use.

Replacement Parts and Glossary

Replacement Parts

Component	Replacement Part No.
Calibration Weight	16214
Filter	34724
Oil Drain Bottle	19100
Oil Inject Bottle	19867
Printer	30038
Printer Paper (1 roll)	34214 or 5607069
LP Service Coupler	18190A
HP Service Coupler	18191A
Service Coupler Set (high-side [red] and low-side [blue] couplers)	18192
Hose Set without Couplers (high-side [red] and low-side [blue])	71788
Service Hose without Coupler (low-side, blue)	70018
Service Hose without Coupler (high-side, red)	70019
Vacuum Pump Oil (<i>quart</i>)	13203
Vacuum Pump Oil (<i>gallon</i>)	13204
Vinyl Dust Cover (optional)	17499



CAUTION: To prevent personal injury, use only those repair parts called out in this parts list. Items found in this parts list have been carefully tested and selected by Robinair.

Glossary

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

Evacuation : Moisture and other non-condensables are removed from an A/C system by a vacuum pump.

Internal Storage Vessel (ISV) : The refillable refrigerant storage tank designed specifically for this machine; 10 kg (22 lbs) capacity.

Leak Test (Vacuum) : Components containing refrigerant are evacuated and monitored for pressure rise, which could indicate a leak.

Machine : Model No. 34788NI/34788NI-H.

Leak Check : Components containing refrigerant are pressurized and monitored for pressure decay, which could indicate a leak.

Recovery / Recycling : Refrigerant is recovered from an A/C system, filtered, and stored in the ISV.

Refrigerant : R134a.

Troubleshooting Messages

Display	Cause	Solution
CALIBRATION CHECK FAILED	Internal scale is out of calibration.	Press F1 to retry CALIBRATION CHECK. If calibration continues to fail, exit current test and contact a Robinair authorized service center for repair.
CHARGE STALLED! CHECK CONNECTIONS AND VALVES	Refrigerant is stalled in the ISV or the machine.	Verify connections are secure and valves are in correct position.
DATABASE NOT INSTALLED	Machine is not shipped with database installed.	Contact a Robinair authorized service center for more information.
EXCESS TANK WEIGHT	Overfill safety circuit tripped. Machine is locked out because of too much refrigerant in ISV.	Contact a Robinair authorized service center for more information.
FILTER EXHAUSTED FILTER WEIGHT XXX.XYY REPLACE FILTER NOW?	150 kg (331 lbs.) or more refrigerant has been recovered since last filter change.	Refer to Filter Maintenance section of this manual for instructions to change vacuum pump oil.
HIGH PRESSURE IN ISV	Machine is locked out because pressure in ISV is too high, possibly because of excessively high tank temperature.	Allow machine to cool before performing additional A/C service. If problem continues, contact a Robinair authorized service center for more information.
IDENTIFY REFRIGERANT PURITY TEST FAILED	Refrigerant tested is not R134a or it is contaminated.	Do not recover contaminated refrigerant into the 34788NI/34788NI-H; use an external refrigerant recovery machine dedicated to contaminated refrigerant.
INLET PRESSURE IS TOO HIGH FOR VACUUM	Before the machine begins evacuating the A/C system, it checks for pressure in the system that could damage the vacuum pump. In this case, system pressure is above 0.35 bar gauge.	Press F1 . Refer to RECOVER section of this manual to recover refrigerant before proceeding.

Troubleshooting Messages

Display	Cause	Solution
POWER BOARD COMMUNICATION FAILED	Failed communication with relay board.	<i>Reset the relay board by pressing F2. If problem continues, contact a Robinair authorized service center for more information.</i>
INSUFFICIENT REFRIGERANT. 6.00 KG REQUIRED FOR SYSTEM FLUSH	Not enough refrigerant in the ISV to perform a system flush.	<i>Refer to Tank Fill in Maintenance section of this manual.</i>
INSUFFICIENT REFRIGERANT AVAILABLE FOR CHARGE SELECTED: XX.XXYY AVAILABLE: XX.XXYY	After a desired weight is entered, if the charge process will leave less than 1.27 kg (2.8 lbs.) of refrigerant in ISV, the charge function will not start.	<i>Refer to Tank Fill in the Maintenance section of this manual.</i>
INVALID CODE	Activation code entered into the machine is not correct.	<i>Verify activation code is entered exactly as received. Capitalization is required.</i>
INVALID SERIAL NUMBER!	Filter serial number entered into the machine is not correct.	<i>Verify serial number entered matches serial number on filter. Verify filter has not been used on machine previously.</i>
LEAK TEST FAILED	A leak in the vehicle A/C system.	<i>Exit current test and perform repairs on vehicle A/C system.</i>
NO PRESSURE ON INLETS CHECK CONNECTIONS RECOVER ANYWAY?	System pressure is below 0.35 bar gauge.	<i>Verify high-side (red) and low-side (blue) hoses are connected and coupler valves open. Press F1 to recover; press F2 to bypass RECOVER and proceed to VACUUM.</i>
OIL DRAIN HALTED	Accumulator pressure failed to rise above 1.10 bar within the minute before an oil drain was supposed to occur.	<i>Adequate pressure is required within the accumulator to force the oil, which has been separated from the refrigerant, out of the system. Press F1 to retry; press F2 to exit.</i>
OIL LIFE REMAINING XX:XXX CHANGE OIL NOW?	Display shows filter capacity remaining until machine locks down.	<i>Refer to Filter Maintenance section of this manual for instructions to change vacuum pump oil.</i>

Troubleshooting Messages

Display	Cause	Solution
OUT OF RANGE ACCUMULATOR PRESSURE	Accumulator pressure transducer is not reading pressure correctly.	<i>Exit current test and contact a Robinair authorized service center for more information.</i>
OUT OF RANGE HS PRESSURE	High-side pressure transducer is not reading pressure correctly.	<i>Exit current test and contact a Robinair authorized service center for more information.</i>
OUT OF RANGE ISV PRESSURE	Internal storage vessel pressure transducer is not reading pressure correctly.	<i>Exit current test and contact a Robinair authorized service center for more information.</i>
OUT OF RANGE ISV TEMPERATURE	Internal storage vessel temperature sensor is not reading temperature correctly.	<i>Exit current test and contact a Robinair authorized service center for more information.</i>
OUT OF RANGE LOW SIDE PRESSURE	Low-side pressure transducer is not reading pressure correctly.	<i>Exit current test and contact a Robinair authorized service center for more information.</i>
PRESSURE TEST FAILED CHECK FOR LEAKS	A leak in vehicle A/C system.	<i>Exit current test and perform repairs on vehicle A/C system.</i>
SERIAL NUMBER HAS ALREADY BEEN USED	Filter serial number entered into the machine is not correct.	<i>Filter has already been used on this machine. Obtain new Robinair filter No. 34728.</i>
SOURCE TANK IS EMPTY	Refrigerant cannot be transferred to the ISV because the source tank is empty.	<i>Exit current test and replace the source tank.</i>
TANK FULL. REMOVE REFRIGERANT BEFORE CONTINUING	ISV is too full to recover additional refrigerant.	<i>Perform a charge process to remove refrigerant from ISV before any further recovery attempts.</i>
TRIAL PERIOD EXPIRED UNIT ACTIVATION REQUIRED TO CONTINUE USE	Failure to register and activate the machine within 30 days of initial startup will cause the machine to lock out and no longer function.	<i>Press F1 and refer to Unit Activation section in this manual to register the machine.</i>
VACUUM TEST FAILED. CHECK FOR LEAKS	A leak in the vehicle A/C system.	<i>Exit current test and perform repairs on vehicle A/C system.</i>

Storage and Transportation of Equipment

Storage

Never leave the machine live if an immediate use is not scheduled.

1. Disconnect the machine from its power supply.
2. Loop the service hoses around the handle twice and attach them to the storage ports. See Figure 13.
3. Store the machine in a dry, stable area, away from flames and hot surfaces. The temperature of the storage area should range between -25°C and 60°C.
4. Lock the front wheels.

Transportation of Equipment



WARNING: To prevent personal injury should the machine require transport to a local Robinair service center, follow local government regulations regarding transportation of equipment containing R134a.

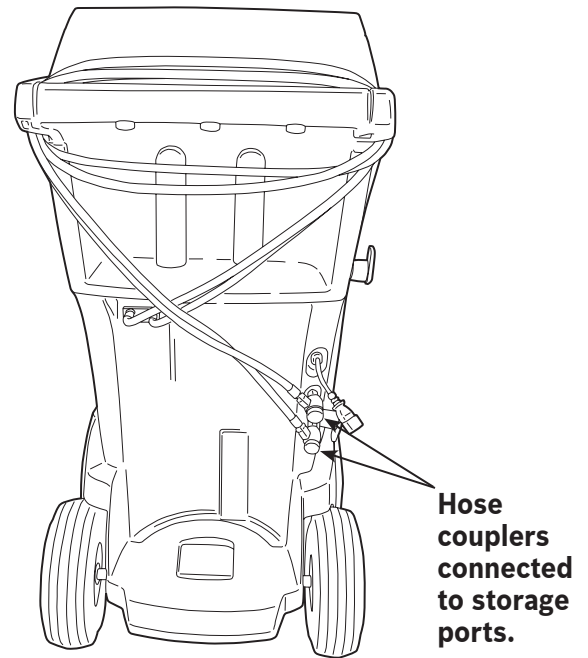


Figure 13

Disposal of Equipment

Disposal of Equipment



At the end of its useful life, dispose of the R134a machine according to current government regulations.

- Public administration and producers of electrical / electronic equipment (EEE) are involved in facilitating the processes of the re-use and recovery of waste electrical / electronic equipment through the organization of collection activities and the use of appropriate planning arrangements.
- In accordance with European Directive WEEE 2002/96/EC, special collection sites are available for waste electrical / electronic equipment.
- Do not dispose of this equipment as miscellaneous solid municipal waste. Arrange to have it collected separately. Unauthorized disposal of waste electrical / electronic equipment is punishable by law with appropriate penalties.
- The reuse and correct recycling of electrical / electronic equipment (EEE) is required for the protection of the environment and the well-being of humans.

Disposal of Recycled Materials

It is the responsibility of the user to determine if a material is a hazardous waste at the time of disposal. The user must ensure compliance with all applicable laws and regulations.

1. Deliver the refrigerant recovered from A/C systems to gas suppliers for recycling or disposal.
2. Deliver the lubricants extracted from A/C systems to used oil collection centers.
3. Review the laws in your jurisdiction to determine correct disposal procedures for pump oil.

Disposal of the Machine

1. Detach and vent the gas from the machine circuit. Completely discharge the refrigerant tank in compliance with current government regulations.
2. Deliver the machine to an appropriate disposal center.

Disposal of Batteries



At the end of their useful life, dispose of batteries according to current government regulations. Batteries must be recycled or disposed of correctly. Do not throw away batteries as part of normal refuse disposal.



To prevent personal injury, do not throw batteries into open flame.

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