

# R134a/R1234yf COMPLETE A/C RECOVERY SET OPERATING INSTRUCTIONS

## **SAFETY INFORMATION!** **READ CAREFULLY BEFORE USING** **RECOVERY SYSTEM!**

**CAUTION! This equipment should only be operated by certified personnel.**

### **SAFETY SUMMARY**

The following safety information is provided as guidelines to help you operate your new system under the safest possible conditions. Any equipment that uses chemicals can be potentially dangerous to use when safety or safe handling instructions are not followed. The following safety instructions are to provide the user with the information necessary for safe use and operation. Please read and retain these instructions for the continued safe use of your service system.



### **SAFETY INFORMATION**

Customers respect the tools with which they work. They know that the tools represent years of constantly improved designs and developments. The customer also knows that tools are dangerous if misused or abused. To reduce risk of discomfort, illness, or even death, read, understand, and follow the following safety instructions. In addition, make certain that anyone using this equipment understands and follows these safety instructions as well.

**READ ALL SAFETY INFORMATION CAREFULLY** before attempting to install, operate, or service this equipment. Failure to comply with these instructions could result in personal injury and/or property damage.

**RETAIN THE FOLLOWING SAFETY INFORMATION FOR FUTURE REFERENCE.**

Published standards on safety are available and are listed at the end of this section under **ADDITIONAL SAFETY INFORMATION**.

The National Electrical Code, Occupational Safety and Health Act regulations, local industrial codes and local inspection requirements also provide a basis for equipment installation, use, and service.

The following safety alert symbols identify important safety messages in this manual. When you see one of the symbols shown here, be alert to the possibility of personal injury and carefully read the message that follows.

Recovery tank contains liquid refrigerant under high pressure. Never over fill recovery tank. Tanks should be filled to a maximum of 80% of capacity only. Use scale and connection to recover tank's float switch to make sure tank is not over filled. Recovery system with automatic shut down switch must be connected to recovery tank float switch for proper operation. Use only approved tanks for refrigerant recovery.

An over filled tank can explode causing serious injury or death.



### **ELECTRICAL SHOCK HAZARDS**

- Make sure system is electrically connected to a properly grounded power source.
- To reduce the risk of electric shock, unplug the air service center from the outlet before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.
- Do not operate the machine with a damaged cord or plug — replace the cord or plug immediately. To reduce the risk of damage to electric plug and cord, disconnect recovery machine by pulling on the plug rather than the cord.

An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in a risk of fire and electric shock. If extension cord must be used, make sure:

- a. That pins on plug of extension cord are the same number, size, and shape as those on machine recovery plug.
- b. That extension cord is properly wired and in good electrical condition; and
- c. That the wire size is large enough for the length of cord as specified below:

Length of cord in feet:	25	50	100	150
AWG size of cord:	16	12	10	8

## MOTION HAZARDS



- Engine parts that are in motion and unexpected movement of a vehicle can injure or kill. When working near moving engine parts, wear snug fit clothing and keep hands and fingers away from moving parts. Keep hoses and tools clear of moving parts. Always stay clear of moving engine parts. Hoses and tools can be thrown through the air if not kept clear of moving engine parts.
- The unexpected movement of a vehicle can injure or kill. When working on vehicles always set the parking brake or block the wheels.

## FUME HAZARDS



- **FUMES, GASES, AND VAPORS CAN CAUSE DISCOMFORT, ILLNESS, AND DEATH!** To reduce the risk of discomfort, illness, or death, read, understand, and follow the following safety instructions. In addition, make certain that anyone that uses the equipment understands and follows these safety instructions as well.
- Avoid breathing A/C refrigerant and lubricant vapor mist. Exposure may irritate eyes, nose, and throat.
- To remove R134a from the A/C system, use certified service equipment. Additional health and safety information may be obtained from refrigerant and lubricant manufacturers.
- Always perform vehicle service in a properly ventilated area. Never run an engine without proper ventilation for its exhaust.
- Stop the recycling process if you develop momentary eye, nose, or throat irritation as this indicates inadequate ventilation. Stop work and take necessary steps to improve ventilation in the work area.

## HEAT/FREEZING HAZARDS



- When under pressure, refrigerants become liquid. When accidentally released from the liquid state they evaporate and become gaseous. As they evaporate, they can freeze tissue very rapidly. When these gases are breathed in, the lungs can be seriously damaged. If sufficient quantities are taken into the lungs, death can result. If you believe you have exposed your lungs to released refrigerant, seek immediate medical assistance.
- Refrigerants can cause frostbite and severe burns to exposed skin. Refrigerants are under pressure and can be forcibly sprayed in all directions if carelessly handled. Avoid contact with refrigerants and always wear protective gloves and make certain other exposed skin is properly covered.
- Refrigerants can also severely injure or cause permanent blindness to unprotected eyes. Refrigerants are under pressure and can be forcibly sprayed in all directions if carelessly handled. **AVOID CONTACT WITH REFRIGERANTS AND ALWAYS WEAR SAFETY GOGGLES.**

## EXPLOSION/FLAME HAZARDS



- Check hose gaskets for damage that could cause leaks before each use.
- For general safety reasons, at the end of the working day or in between services (when services do not immediately follow), make sure all valves on hoses and tanks are closed.
- Do not use this Recovery System in the vicinity of spilled or open containers of flammable substances (gasoline, solvents, etc.).

## ADDITIONAL SAFETY INFORMATION

For additional information concerning safety, refer to the following standards.

ANSI Standard Z87.1 — SAFE PRACTICE FOR OCCUPATION AND EDUCATIONAL EYE AND FACE PROTECTION - obtainable from the American National Standards Institute, 11 West 42nd St., New York, NY 10036, Telephone (212) 642-4900, Fax (212) 398-0023 - [www.ansi.org](http://www.ansi.org)

**CAUTION: This equipment should be used in locations with mechanical ventilation that provides at least four air changes per hour or the equipment should be located at least 18 inches (457 mm) above the floor, or the equivalent.**

**CAUTION: Do not pressure test or leak test refrigerant service equipment and/or vehicle air conditioning systems with compressed air. Some mixtures of air and refrigerant have been shown to be combustible at elevated pressures. These mixtures, if ignited, may cause injury or property damage. Additional health and safety information may be obtained from refrigerant manufacturers.**

Attention: Technicians using this equipment must be certified under EPA Section 609 (Environmental Protection Agency).

**CAUTION:** This equipment should be serviced by authorized personnel only to maintain flammability rating.

**WARNING:** There is the possibility of refrigerant and equipment contamination from hydrocarbons or leak sealants in the refrigerant container or the mobile A/C system being serviced or refrigerant container.

**NOTE:** Use only new refrigerant oil to replace the amount removed during the recycling process. Used oil should be discarded per applicable federal, state, and local requirements.

The manufacturer shall not be responsible for any additional costs associated with a product failure including, but not limited to, loss of work time, loss of refrigerant, cross contamination of refrigerant, and unauthorized shipping and/or labor charges.

**IMPORTANT:** R1234yf systems have special fittings (per SAE specifications) to avoid cross-contamination with R134a systems. DO NOT adapt your unit for a different refrigerant — system failure will result.

**PERIODICALLY INSPECT AND MAINTAIN REFRIGERANT HOSES AND SEALS TO ENSURE THAT HOSES AND SEALS PREVENT THE ADDITION OF EXCESS AIR, DUE TO LEAKS, DURING THE RECOVERY PROCESS, WHICH WOULD INCREASE THE NCG LEVEL IN THE RECOVERED REFRIGERANT AND COULD MAKE AN EXPLOSIVE MIXTURE WITH HYDROCARBON REFRIGERANTS.**

All hoses used for interconnecting system should have shut off valves (manual or automatic) on both ends. Treat all hoses and connections with caution. Hoses or connections will contain liquid refrigerant or gas under pressure. Connect and disconnect fittings with caution.

The Recovery System includes a fine screen filter at the inlet port. The screen should be checked often or whenever contamination prevents proper operation of the recovery system.

### SPECIFICATIONS:

- Rated Voltage: 120 V
- Frequency: 60 HZ
- Full Load Amperage: 7.6A
- Locked Rotor Amperage: 25.2 A
- Output: 1/2 HP
- Class: A
- Continuous Duty
- Design Pressure: 400 psi outlet, 175 psi inlet

**CONFORMS TO UL STD 1004-1, 1004-3, 2111 & 1963**

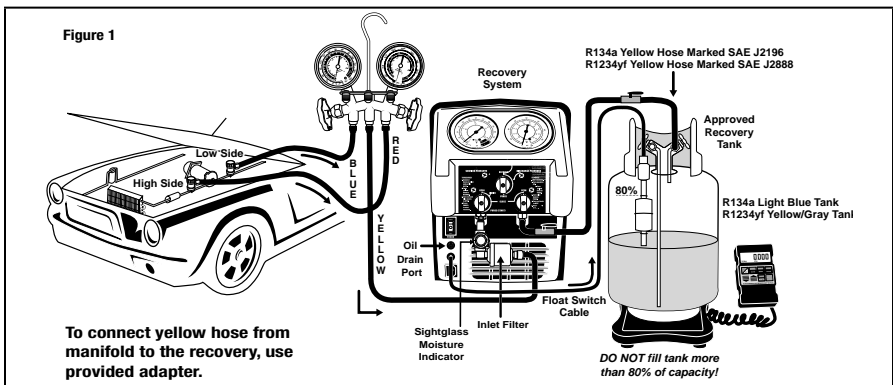
THERMALLY PROTECTED:

Manufacturer: Sensata

Model No. 8AMZESHF7



**Intertek**  
3174323



### OPERATING GUIDE FOR DIRECT VAPOR OR LIQUID RECOVERY (Refer to fig.1)

**NOTE:** Before using this equipment, you will need to determine what refrigerant is in the vehicle that you are working with.

- **R134a:** If the refrigerant is R134a you will use the LIGHT BLUE tank with the yellow hose marked SAE J2196/R134a
- **R1234yf:** If refrigerant is R1234yf you will use the GRAY/YELLOW tank with the yellow hose marked

SAE J2888/1234yf

- **NOT SURE:** If you do not know what refrigerant is in the vehicle. Use an Identifier to determine which refrigerant is in the vehicle to prevent cross contamination in either tank

**FIRST TIME USE:** Each tank is shipped pressurized with dry air. Before the tank can be used for the first time, slowly open the vapor (BLUE) valve on the tank by turning the knob counter-clockwise to release the pressure. Once the pressure has been released. Close the vapor (BLUE) valve by turning the knob clockwise prior to connecting the hoses. This step is for the first time only. DO NOT open either valve on the tank when there is refrigerant in it and the tank is not connected to any other part of the equipment. Open the tank valves only when instructed to do so.

**NOTE:** If the recovery machine shuts off due to a full tank. Close the blue tank valve and the ball valve that is closest to the tank. Turn the machine off. Replace the tank with an empty one. Reconnect the hose. Open the blue tank valve and the ball valve that is closest to the tank. Turn the machine back on.

1. Make sure the ON-OFF switch is off. "0" pushed in. Connect the machine to a grounded power outlet.
2. Turn the inlet (BLUE) valve to the CLOSE position.
3. Turn the center (YELLOW) valve to the RECOVERY position.
4. Assemble the manifold per the included instructions.
5. Connect the YELLOW hose with the shut off valve to the recovery machine inlet (BLUE).
6. Connect the RED coupler to the vehicle HIGH side.
7. Connect the BLUE coupler to the vehicle LOW side.
8. Connect one end of the YELLOW hose with the ball valves to the to recovery machine outlet (RED).
9. Connect the other end of the YELLOW hose with the ball valves to the tanks vapor side (BLUE).
10. Connect the float switch cable to the tank.
11. Open the vapor valve on the tank (BLUE) by turning the knob counter-clockwise.
12. Open both ball valves on the YELLOW hose.
13. Turn the outlet (RED) valve to the OPEN position.
14. Turn the inlet (BLUE) valve to the OPEN position.
15. Open the manifold valves by turning the handwheels counter-clock wise.
16. Turn the machine ON.

**NOTE:** Observe the operation of the system. In rare instances "SLUGGING" may be apparent (loud compressor noise or high vibration). If this condition is apparent, turn the inlet valve to the LIQUID position. The system can be run continuously in the LIQUID position. It is suggested that the operator periodically turn the inlet valve to the OPEN position and check for proper operation. The best operation of the system is when the inlet valve is OPEN and no "SLUGGING" is observed.

17. When the inlet pressure (BLUE) is 15inHg or more, the recovery is done.
18. To Purge the recovery system. Let the machine continue to run.
19. Turn the center (YELLOW) valve to the PURGE position.
20. Turn the inlet (BLUE) valve to the PURGE position.

**NOTE:** It may take 1 or 2 minutes to purge the recovery machine of refrigerant. The time depends on how much liquid refrigerant has collected in the machine.

21. When the inlet (BLUE) pressure is 10PSI.
22. Turn the machine OFF.
23. Drain the oil from the recovery machine. See the instructions on the side of the used oil bottle.
24. Turn the machine ON.
25. When the inlet (BLUE) pressure is 15inHg turn the inlet (BLUE) valve off.
26. Turn the machine off.

**FILTER:** This equipment is provided with a sight glass and a spare desiccant filter. Change the filter when the sight glass indicates WET after using and does not return to DRY once the process has ended.

**NOTE:** The desiccant filter cannot be cleaned or reused.

For parts or service contact the service department 1-888-825-6989

**⚠ WARNING:** This product can expose you to chemicals including Di (2-ethylhexyl) phthalate, lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)