Goodman GLZS4BA3610 / AMST36CU1300

Goodman 15 SEER2 Central Split Unit Heat Pump AC/Heating System User Manual

Model: GLZS4BA3610 / AMST36CU1300

1. Introduction

This manual provides comprehensive instructions for the Goodman 15 SEER2 Central Split Unit Heat Pump AC/Heating System, model GLZS4BA3610 / AMST36CU1300. It covers product overview, installation, operation, maintenance, troubleshooting, and detailed specifications to ensure safe and efficient use. Please read this manual thoroughly before installation and operation.

2. Product Components

The Goodman 15 SEER2 Central Split Unit Heat Pump AC/Heating System includes the following primary components:

- **Heat Pump Condenser:** An outdoor unit designed for efficient heating and cooling, providing year-round climate control.
- **Air Handler:** An indoor unit featuring an ECM blower motor, an all-aluminum evaporator, and a factory-installed TXV kit for optimal performance and efficiency.
- **Installation Kit:** A comprehensive kit including a 3/8" LL x 7/8" SL x 3/8" line set, a 1/2" X 4' 10 gauge whip, a non-fuse 60A disconnect switch, a 2 heat / 1 cool non-programmable thermostat, a 36" x 36" x 3" e-lite pad, and a fitting coupling kit set.
- **10kW Backup Heat Kit:** Provides supplemental heating capacity.

Image 2.1: Overview of the Goodman 15 SEER2 Central Split Unit Heat Pump AC/Heating System, showing the outdoor condenser, indoor air handler, and the installation kit.

Image 2.2: Detailed view of the installation kit components, including line set, electrical whip, disconnect switch, thermostat, and e-lite pad.

3. Setup and Installation

Installation of this HVAC system requires specialized knowledge and tools. It is strongly recommended that installation be performed by a qualified HVAC technician to ensure proper function, safety, and warranty validity.

3.1 Pre-Installation Checks

- Verify that the electrical supply matches the unit's requirements (208/230 V, 1 Ph, 60 Hz).
- Ensure adequate space for both the outdoor condenser and indoor air handler, allowing for proper airflow and maintenance access.
- Confirm all components of the installation kit are present and undamaged.

3.2 Installation Steps (Overview for Professional Installers)

1. Position the outdoor condenser on a stable, level surface, such as the provided 36" x 36" x 3" e-lite pad.
2. Install the indoor air handler in the designated location, ensuring proper ductwork connection.
3. Connect the refrigerant line set (3/8" LL x 7/8" SL x 3/8") between the condenser and air handler. Ensure

proper evacuation and charging with R32 refrigerant.

4. Perform electrical wiring connections, including the 1/2" X 4' 10 gauge whip and the non-fuse 60A disconnect switch, adhering to all local electrical codes.
5. Install the 10kW backup heat kit within the air handler, following manufacturer guidelines.
6. Mount and wire the non-programmable thermostat.
7. Conduct system startup and testing to verify proper operation in both heating and cooling modes.

Warning: Improper installation can lead to equipment damage, personal injury, and void the product warranty. Always consult with a certified HVAC professional.

4. Operation

Your Goodman Heat Pump AC/Heating System is designed for user-friendly operation via the included non-programmable thermostat. Once installed and powered, the system will respond to your thermostat settings to maintain desired indoor temperatures.

4.1 Thermostat Control

- **Mode Selection:** Use the thermostat to select between "Heat," "Cool," or "Off" modes.
- **Temperature Setting:** Adjust the desired temperature using the up/down arrows on the thermostat.
- **Fan Control:** Set the fan to "Auto" (runs only when heating or cooling) or "On" (runs continuously).

The system will automatically switch between heat pump operation and supplemental heat (from the 10kW backup heat kit) as needed to efficiently maintain your set temperature, especially in colder conditions.

5. Maintenance

Regular maintenance is crucial for the longevity and efficient operation of your HVAC system. It is recommended to schedule annual professional inspections and perform routine user maintenance.

5.1 User Maintenance

- **Air Filter Replacement:** Regularly check and replace the air filter in your air handler (filter size: 19.5" W x 20" L). A dirty filter restricts airflow and reduces efficiency.
- **Outdoor Unit Cleaning:** Keep the area around the outdoor condenser clear of debris, leaves, and vegetation to ensure proper airflow. Gently clean the coil fins if they become dirty.
- **Drain Pan Check:** Periodically inspect the condensate drain pan and line for blockages, especially during cooling season.

5.2 Professional Maintenance

An HVAC technician can perform more in-depth checks, including refrigerant levels, electrical connections, coil cleaning, and overall system performance tuning. This helps prevent breakdowns and ensures optimal energy efficiency.

6. Troubleshooting

Before calling for service, consider these common issues and solutions:

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
System not turning on	Thermostat off, power outage, tripped circuit breaker, disconnect switch off.	Check thermostat settings, verify power, reset breaker, ensure disconnect switch is ON.
Insufficient heating/cooling	Dirty air filter, blocked outdoor unit, incorrect thermostat setting, low refrigerant.	Replace air filter, clear debris from outdoor unit, adjust thermostat, contact technician for refrigerant check.
Unusual noises	Loose parts, fan obstruction, compressor issue.	Inspect for loose panels or debris. If persistent, contact a qualified technician.
Water leakage	Clogged condensate drain line, frozen evaporator coil.	Clear drain line. If coil is frozen, turn off system and contact technician.

If these steps do not resolve the issue, please contact a qualified HVAC service professional.

7. Specifications

Detailed technical specifications for the Goodman 15 SEER2 Central Split Unit Heat Pump AC/Heating System (Model: GLZS4BA3610 / AMST36CU1300):

Image 7.1: Dimensions of the Goodman outdoor condenser and indoor air handler units.

Feature	Detail
Model Numbers	GLZS4BA3610 (Condenser) / AMST36CU1300 (Air Handler)
Cool/Heat Tonnage	3 Ton
Cool/Heat Output	36,000 BTU/h
AC Efficiency (SEER2)	14.3 - 15.2
Heat Efficiency (HSPF2)	7.5 - 7.8
Electrical Information	208/230 V, 1 Ph, 60 Hz, 15 Amps
Sound Operation	75.0 dBA (Lvl)
Equipment Weight	196 lbs
Condenser Stage	Single Stage

Feature	Detail
Compressor Type	Scroll Type
Refrigerant	R32 (Pre-charged with enough R32 to fill itself, a coil, and 15ft of line set)
Refrigerant Line Size	Liquid Line 3/8" (9.52 mm) OD, Suction Line 7/8" (22.22 mm) OD
Air Handler Blower Motor	Multi-Speed Direct Drive ECM, 3/4 Horsepower, 1830 CFM
Air Handler Evaporator Coil	All-aluminum build
Air Handler Filter Size	19.5" W x 20" L (ALFH1912201E)
Air Handler Multi-Positional	Upflow, Downflow, or Horizontal
Backup Heat Kit Options (This unit includes 10kW)	5 kW (16,200 BTU / 30 Amps), 10 kW (34,100 BTU / 60 Amps), 15 kW (51,150 BTU / 90 Amps), 20 kW (68,200 BTU / 120 Amps)
Certifications	AHRI Certified, ETL Listed

Image 7.2: Key feature details and refrigeration data for the Goodman heat pump.

Image 7.3: Detailed specifications for the Goodman air handler, including blower motor and evaporator coil information.

8. Energy Efficiency and Heat Pump Technology

8.1 Understanding the Energy Guide

The Energy Guide label provides valuable information regarding the energy consumption and estimated operating costs of your heat pump system. It helps compare the efficiency of various HVAC units.

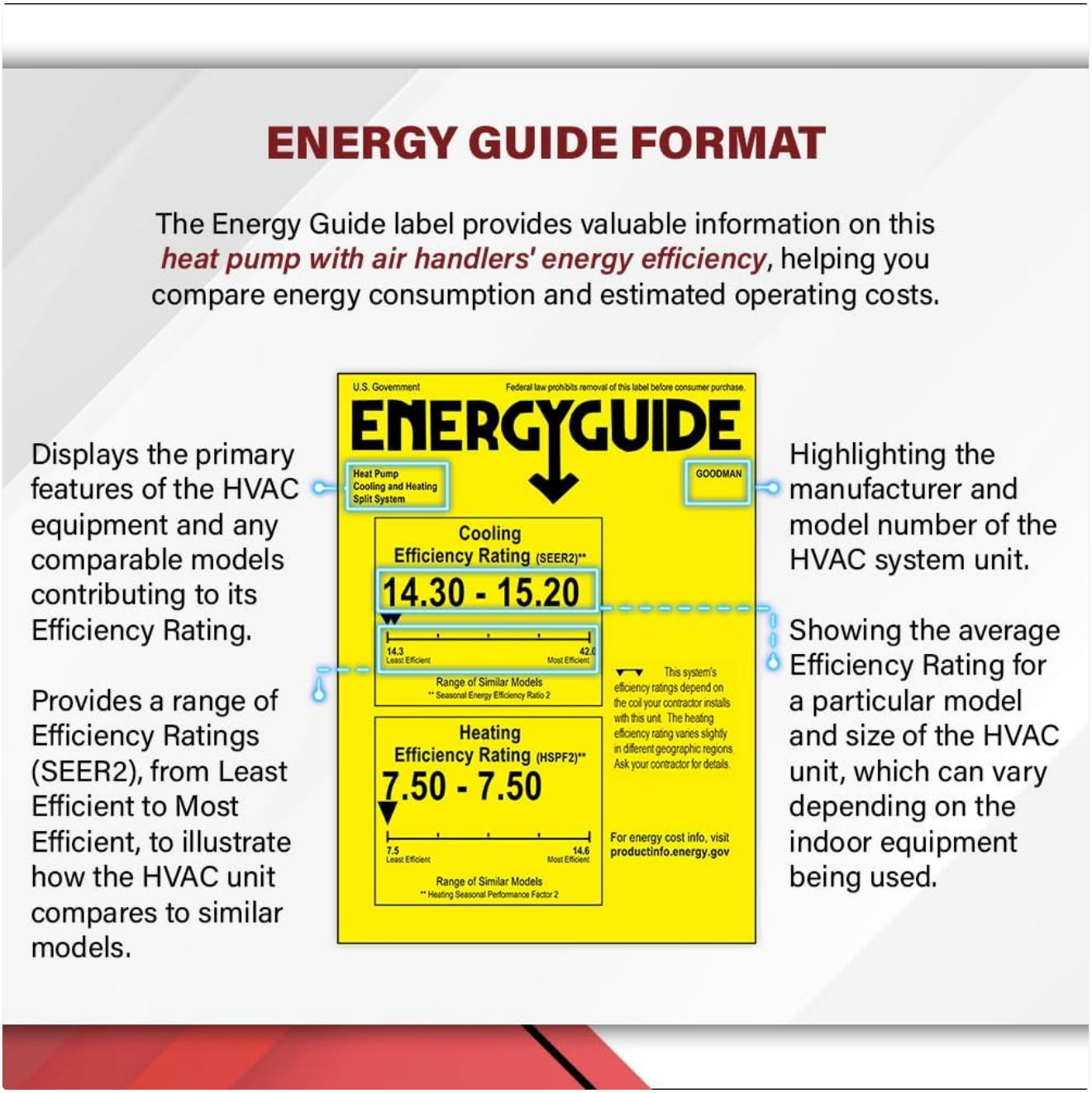

Image 8.1: Explanation of the Energy Guide label, detailing how to interpret cooling efficiency (SEER2) and heating efficiency (HSPF2) ratings.

8.2 Heat Pump vs. AC Only Systems

Heat pumps offer both heating and cooling capabilities, making them a versatile choice for year-round climate control. They efficiently generate heat even in outdoor temperatures as low as 32°F. While initial costs may be higher than AC-only units, heat pumps can lead to significant long-term savings on utility bills, especially in milder climates, by transferring heat rather than generating it.

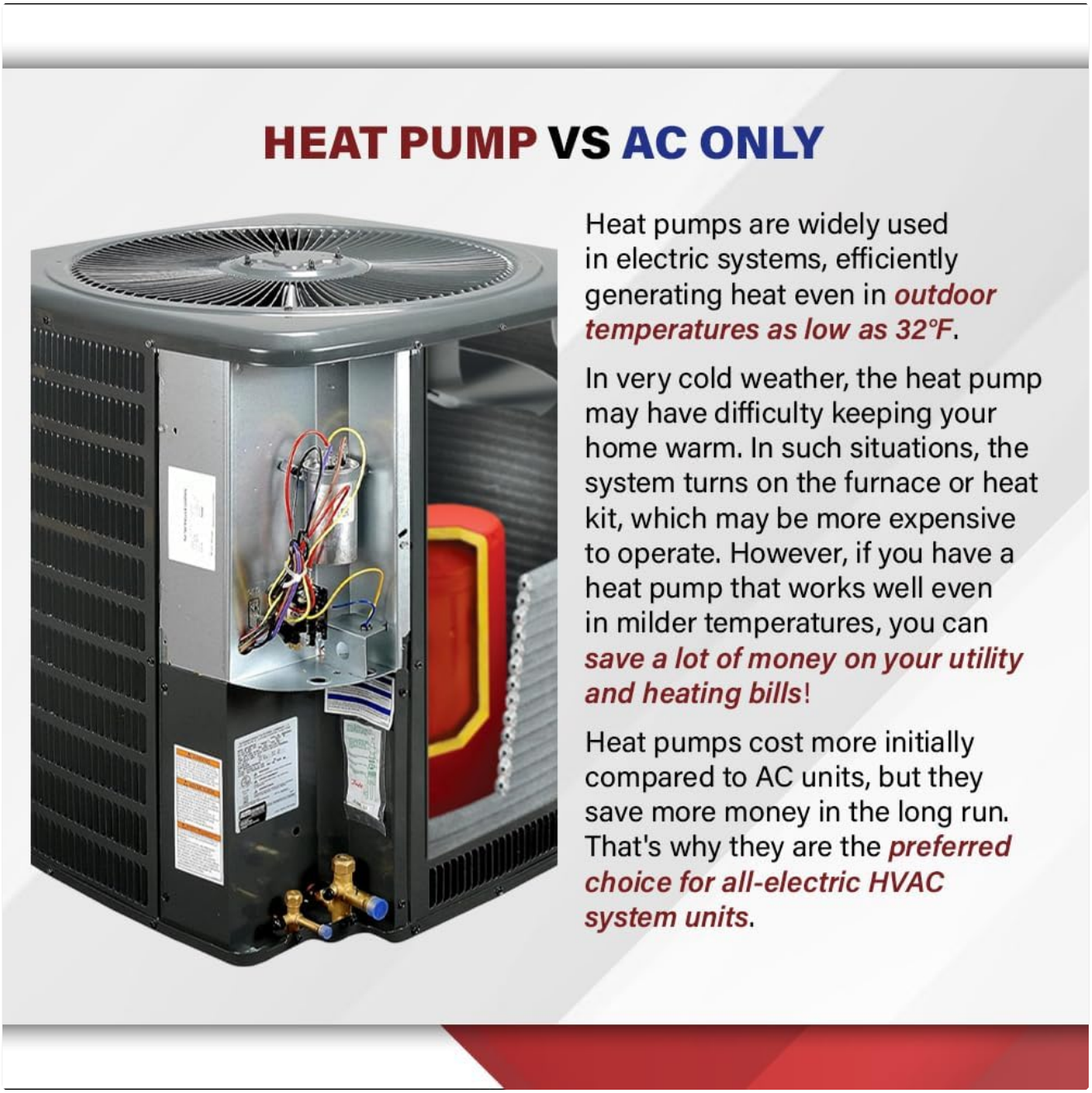

Image 8.2: Visual comparison highlighting the components and operational differences between a heat pump and an AC-only system.

9. Warranty and Support

Your Goodman HVAC system comes with a manufacturer's warranty to protect your investment.

9.1 Warranty Conditions

A **10-year parts warranty** is provided when the unit is installed by a qualified technician and registered online with the manufacturer at no additional charge. Please retain your proof of purchase and installation records.

9.2 Customer Support

For technical assistance, warranty claims, or to locate a certified service provider, please contact Goodman customer support or the authorized dealer from whom you purchased the system. Ensure you have your model and serial numbers available when contacting support.
You can find more information and register your product on the official Goodman website.