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› Goodman 5 TON 13.4 SEER2 Multi-Position Heat Pump Packaged Unit User Manual

Goodman GPH1460M41

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Model: GPH1460M41

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation, installation, and maintenance of your Goodman 5 TON 13.4 SEER2 Multi-Position Heat Pump Packaged Unit, Model GPH1460M41. Please read this manual thoroughly before installation or operation and retain it for future reference.

The GPH14M Packaged Heat Pump is designed to provide energy-efficient heating and cooling performance in a single, self-contained unit. It is suitable for both ground-level and rooftop installations.



Figure 1: Goodman 5 Ton 13.4 SEER2 Multi-Position Heat Pump Packaged Unit (Model GPH1460M41).

2. SAFETY INFORMATION

Always observe basic safety precautions when installing, operating, or servicing this equipment. Failure to do so may result in serious injury or death, and property damage.

- Installation and servicing should only be performed by qualified, experienced technicians.
- Disconnect all electrical power to the unit before performing any maintenance or service.
- Ensure proper grounding to prevent electrical shock.
- Handle refrigerant with care. R-410A is a high-pressure refrigerant.
- Wear appropriate personal protective equipment (PPE), including gloves and eye protection.
- Refer to local building codes and regulations for proper installation.

3. PRODUCT FEATURES

The Goodman GPH1460M41 unit incorporates several advanced features for optimal performance and durability:

- **Energy-efficient compressor with internal relief valve:** Designed for reliable and efficient operation, protecting against excessive pressure.
- **Two-stage heating & cooling (for 4 & 5 ton units):** Provides enhanced comfort and efficiency by adjusting capacity based on demand.
- **EEM (X-13) blower motor:** A high-efficiency motor that provides consistent airflow and reduces energy consumption.
- **R-410A chlorine-free refrigerant:** An environmentally friendly refrigerant that meets current regulatory standards.
- **Liquid-line filter drier:** Protects the refrigerant system from moisture and contaminants.
- **All-Aluminum evaporator coil:** Durable and corrosion-resistant for long-lasting performance.
- **Copper tube/aluminum fin coils:** Optimized for heat transfer efficiency.
- **Convertible airflow:** Can be configured for horizontal or downflow applications, offering installation flexibility.
- **Louvered condenser coil protection:** Guards the outdoor coil against damage.
- **Heavy-gauge galvanized-steel cabinet:** Provides robust protection against weather and corrosion.
- **AHRI Certified; ETL Listed:** Ensures the unit meets industry performance and safety standards.

4. SETUP AND INSTALLATION

Proper installation is crucial for the performance and longevity of your heat pump unit. This section provides general guidelines. Always refer to the detailed installation instructions provided with the unit for specific procedures and diagrams.

4.1 Site Selection

- Choose a level, stable surface capable of supporting the unit's weight (approximately 98.8 pounds).
- Ensure adequate clearance around the unit for proper airflow and future maintenance access.
- Consider proximity to electrical and ductwork connections.

4.2 Ductwork Connection

The unit features convertible airflow, allowing for horizontal or downflow configurations. Ensure all duct connections are sealed properly to prevent air leakage and optimize system efficiency.

4.3 Electrical Connections

Connect the unit to a dedicated electrical circuit as per local electrical codes and the unit's specifications. Ensure proper voltage and amperage. The unit requires a corded electric power source.

4.4 Refrigerant Charging (if applicable)

The unit uses R-410A refrigerant. Any refrigerant charging or adjustment should only be performed by a certified HVAC technician.

5. OPERATING INSTRUCTIONS

Once installed, your Goodman heat pump unit is designed for straightforward operation via a compatible thermostat (not included).

5.1 Initial Startup

1. Ensure all electrical connections are secure and power is supplied to the unit.
2. Set your thermostat to the desired mode (Heat, Cool, or Auto) and temperature.
3. Allow the system to cycle through its initial startup sequence. This may take a few minutes.

5.2 Operating Modes

- **Cooling Mode:** The unit will extract heat from your indoor space and dissipate it outdoors.
- **Heating Mode:** The unit will extract heat from the outdoor air and transfer it indoors.
- **Fan Only Mode:** Circulates air without heating or cooling.

For optimal efficiency, avoid frequent and drastic temperature adjustments on your thermostat.

6. MAINTENANCE

Regular maintenance is essential to ensure the long-term performance, efficiency, and reliability of your Goodman heat pump unit. It is recommended to have a qualified HVAC technician perform annual professional maintenance.

6.1 User Maintenance (Monthly/Quarterly)

- **Air Filter Replacement/Cleaning:** Check and replace or clean the indoor air filter regularly (monthly or quarterly, depending on usage and environment). A dirty filter restricts airflow and reduces efficiency.
- **Clear Outdoor Unit:** Ensure the outdoor unit (condenser) is free from debris, leaves, grass clippings, and other obstructions that can block airflow.
- **Inspect Drain Pan and Line:** Check for any blockages or standing water in the condensate drain pan and line.

6.2 Professional Maintenance (Annually)

- **Coil Cleaning:** Professional cleaning of evaporator and condenser coils.
- **Refrigerant Level Check:** Verify proper refrigerant charge.
- **Electrical Component Inspection:** Check wiring, connections, and electrical components for wear or damage.
- **Blower Motor Inspection:** Check motor operation and lubrication.
- **Ductwork Inspection:** Check for leaks or damage in the duct system.

7. TROUBLESHOOTING

This section provides basic troubleshooting steps for common issues. For complex problems, contact a qualified HVAC technician.

Problem	Possible Cause	Solution
Unit not turning on	No power; Thermostat setting incorrect; Blown fuse/tripped breaker	Check power supply; Verify thermostat settings; Reset breaker/replace fuse.
Insufficient heating/cooling	Dirty air filter; Blocked outdoor unit; Low refrigerant; Leaky ductwork	Clean/replace filter; Clear debris from outdoor unit; Contact technician for refrigerant/ductwork.
Unusual noises	Loose parts; Fan motor issue; Compressor issue	Turn off unit and inspect for loose parts (if safe); Contact technician for motor/compressor issues.
Water leakage	Clogged condensate drain line; Frozen evaporator coil	Clear drain line; Check air filter and airflow, allow coil to thaw, then restart.

8. SPECIFICATIONS

Key technical specifications for the Goodman GPH1460M41 unit:

- **Model Number:** GPH1460M41
- **Brand:** Goodman
- **Capacity:** 5 TON
- **SEER (Seasonal Energy Efficiency Ratio):** 14
- **Refrigerant:** R-410A (Chlorine-Free)
- **Form Factor:** Outdoor Package Unit
- **Dimensions (L x W x H):** 51 x 47 x 42.75 inches
- **Item Weight:** 98.8 pounds
- **Power Source:** Corded Electric
- **Cabinet Material:** Heavy-gauge galvanized-steel
- **Coil Type:** All-Aluminum evaporator coil, Copper tube/aluminum fin coils
- **Blower Motor:** Multi-speed ECM (X-13)
- **Airflow:** Convertible (Horizontal or Downflow)

9. WARRANTY AND SUPPORT

The Goodman GPH14M Packaged Heat Pump is covered by a **10-Year Parts Limited Warranty** on all functional parts. This warranty protects against defects in materials and workmanship under normal use and service.

For warranty claims, technical support, or service inquiries, please contact your authorized Goodman dealer or the Goodman customer support line. Ensure you have your model number (GPH1460M41) and serial number ready when contacting support.

For more information, you may visit the official Goodman website or consult your original purchase documentation.

ASK A QUESTION ABOUT THIS MANUAL

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