

Model TSTATG2100-2

**Goodman**

Air Conditioning & Heating

## Heat Pump • Non-Programmable Digital Thermostat



**GREAT  
FEATURES!**

- Control up to 2-Heat & 1-Cool
- Battery or System Powered
- Aux Heat Indicator

# Owner's Manual

Thank goodness for Goodman.™

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# Safety Warnings

P/N TSTATG2100-2

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**CAUTION**

Follow *Installation Instructions* carefully.

DISCONNECT POWER TO THE HEATER - AIR CONDITIONER BEFORE REMOVING THE OLD THERMOSTAT AND INSTALLING THE NEW THERMOSTAT.

**WARNING****CAUTION**

The two Alkaline “AA” batteries must be replaced at least once every 12 months to ensure proper operation. The “Low Battery” icon will appear on the thermostat display when it is time to replace the batteries. If the thermostat is connected to 24v power, the batteries should still be installed, but are not required.

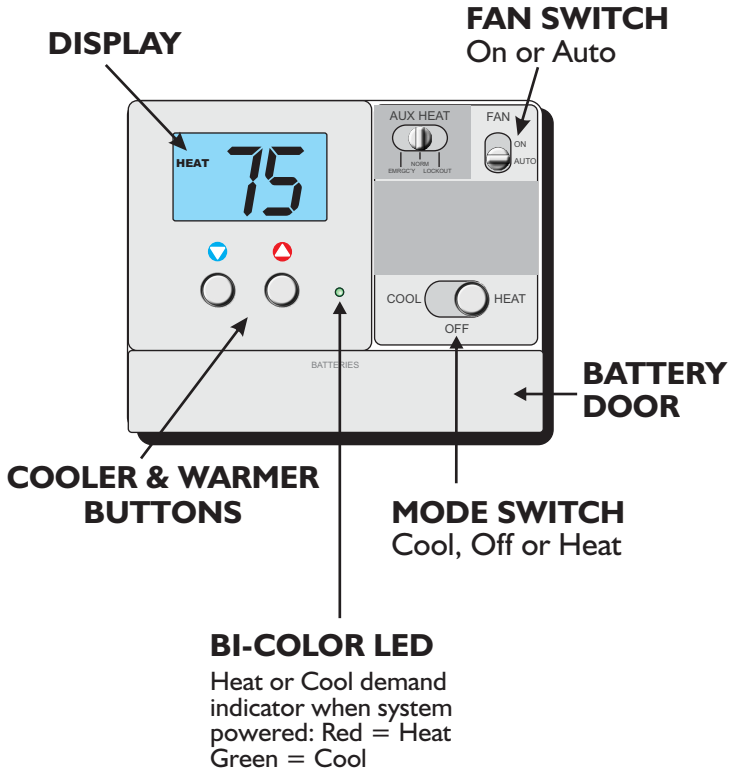
When “Low Battery” is displayed the batteries must be replaced immediately. The manufacturer cannot be liable for improper operation of the thermostat if the batteries are not immediately replaced.

Annual battery replacement is especially critical in locations subject to freezing temperatures. The thermostat will be unable to turn on the heating system if the batteries are exhausted.

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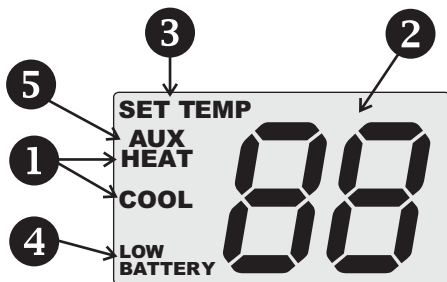
This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:  
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

# Front Panel



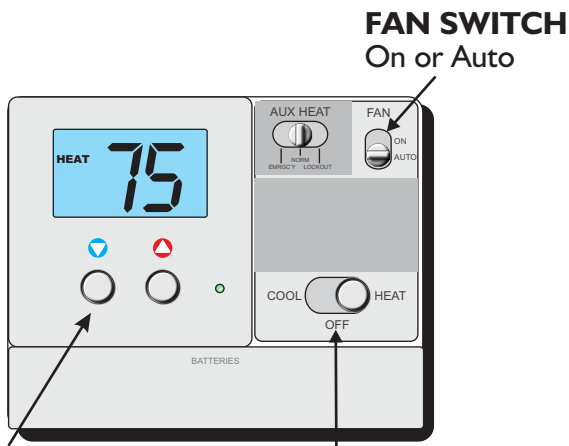
## Display

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- 
- 1** Heat and Cool indicators.  
In normal operation, Heat or Cool appears, depending on the Mode Switch position. When heat or cool is energized, the Heat or Cool indicator will flash.
  - 2** Current room or set temperature.
  - 3** Desired set temperature indicator.  
When this indicator is on, the large numbers represent the desired room temperature. Pressing the COOLER or WARMER button during normal operation will cause the large numbers to switch from the current room temperature to the desired set temperature.
  - 4** Indicates battery life is low; it is recommended to replace the batteries at this time.
  - 5** Indicates auxiliary heat is energized.

## Normal Operation



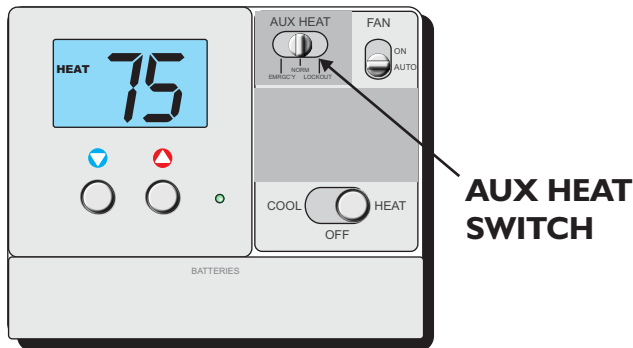
**COOLER & WARMER  
BUTTONS**

**MODE SWITCH**  
Cool, Off or Heat

### Operation

- 1 Select Cool or Heat with the Mode Switch.
- 2 Normally leave the fan switched to Auto.  
In Fan Auto, the fan will turn on only with a heat or cool demand. When Fan On is selected, the fan will run continuously.
- 3 Adjust the desired set temperature with the COOLER or WARMER buttons.

## Aux Heat



**Emergency** - Disables all compressor functions\* and energizes only Aux Heat to satisfy the heat demand.

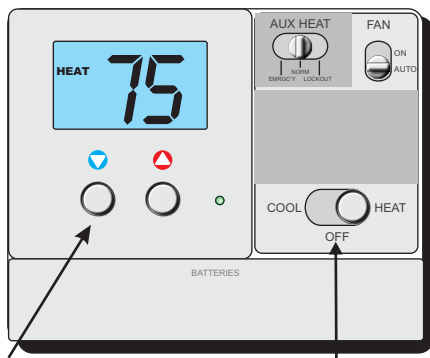
**Normal** - Aux Heat is allowed to run, if necessary, along with the heat pump to satisfy the heat demand.

**Lockout** - Aux Heat will never turn on regardless of the heat demand.

\* When the Aux Heat switch is in the Emergency position the compressor will also be locked out during cooling operation.

## Fahrenheit or Celsius

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### COOLER & WARMER BUTTONS

### MODE SWITCH Cool, Off or Heat

### Operation

- 1 Select Off with the Mode Switch.
- 2 Press and hold the COOLER and WARMER buttons at the same time until the temperature is displayed in degrees Celsius.
- 3 Repeat this process to display the temperature in degrees Fahrenheit.



## Preparation

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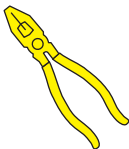
Proper installation of the thermostat will be accomplished by following these step by step instructions. If you are unsure about any of these steps, call a qualified technician for assistance.



These tools will be required:



*Flat Blade  
Screwdriver*



*Wire cutter  
& Stripper*



Make sure your Heat Pump is working properly before beginning installation of the thermostat.



Carefully unpack the thermostat. Save the screws and instructions.



Turn off the power to the Heat Pump system at the main fuse panel.

## Remove & Replace Old Thermostat

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Remove the cover of the old thermostat. If it does not come off easily check for screws.



Loosen the screws holding the thermostat base or subbase to the wall, and lift away.



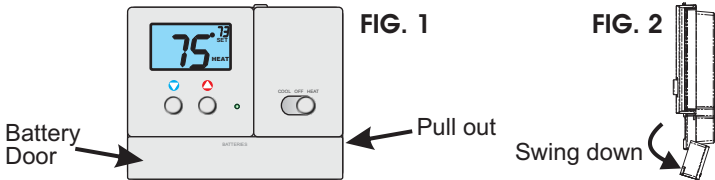
Disconnect the wires from the old thermostat. Tape the ends of the wires as you disconnect them, and mark them with the letter of the terminal for easy reconnection to the new thermostat.



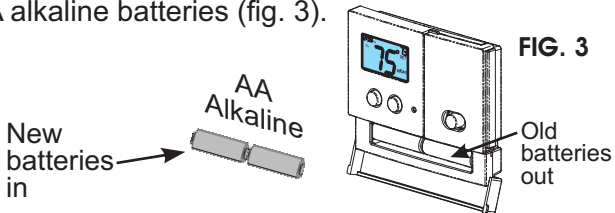
Keep the old thermostat for reference purposes, until your new thermostat is functioning properly.

# Battery Replacement

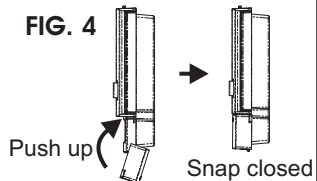
- 1 The batteries are easily accessible from the battery door located on the bottom front of the thermostat (fig. 1). To open the battery slot, pull out on the battery door (fig. 1) and swing down (fig. 2).



- 2 Remove the old batteries and replace with the new AA alkaline batteries (fig. 3).



- 3 Push up on the battery door and snap closed (fig. 4).



The batteries must be replaced immediately when the thermostat displays the Low Battery icon.

# Wire Connections



If the terminal designations on your old thermostat do not match those on the new thermostat, **refer to the chart below or the wiring diagrams that follow.**

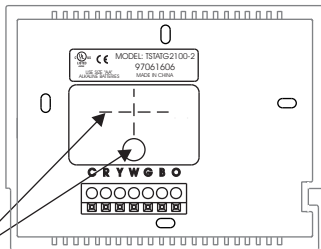
Wire from the old thermostat terminal marked	Function	Install on the new thermostat connector marked
C	Common	C (optional)
Rc, R, M, Vr, A	Power	R
Y1 or Y	Cooling	Y
W1, W or H	Auxiliary Heat	W
G or F	Fan	G
B	Rev. Valve (Energize to Heat)	B
O	Rev. Valve (Energize to Cool)	O

## Thermal Insulating Sheet

A label is provided on the backplate that prevents drafts originating inside the wall from entering the thermostat.

These drafts, left unchecked, may cause incorrect room temperature readings.

Please do not remove this label from the thermostat. Insert the wires through the slots provided in the label as shown in Fig. 1.



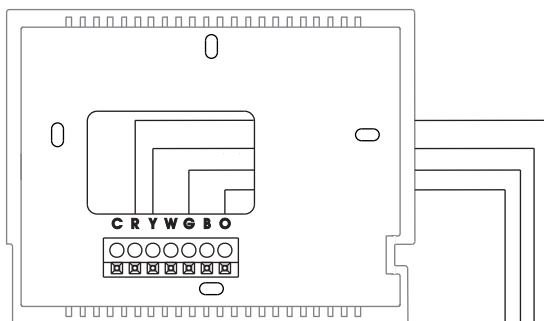
Wire Slots

Fig. 1

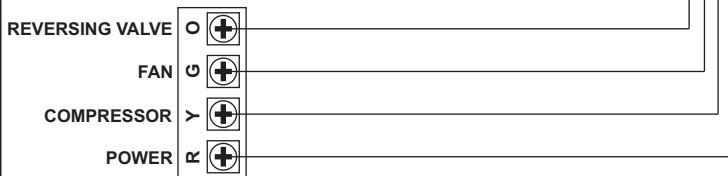
# Sample Wiring Diagrams

**4 Wire, 1 Stage Cooling, 1 Stage Heat-Heat Pump with O reversing valve.**  
Residential Heat Pumps, split systems & package units, with no auxiliary heat.

Common wire optional\*



4 Conductor 18 to 22 gauge unshielded cable from the thermostat to the equipment.

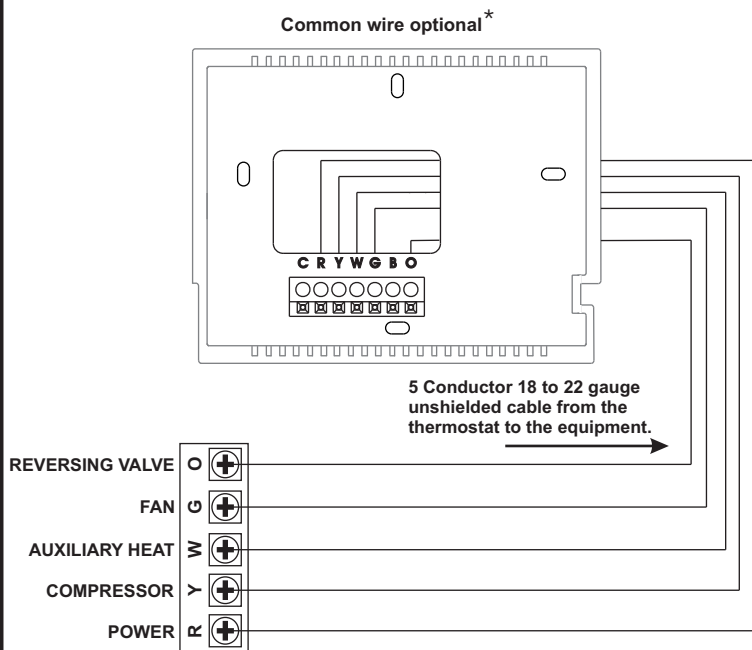


\* Common wire is optional in all installations. If a common wire is not used the thermostat must be powered by two AA alkaline batteries. These batteries must be replaced (page 11) each year or when the Low Battery indicator is displayed (page 3).

# Sample Wiring Diagrams

## 5 Wire, 1 Stage Cooling, 2 Stage Heat-Heat Pump with O reversing valve.

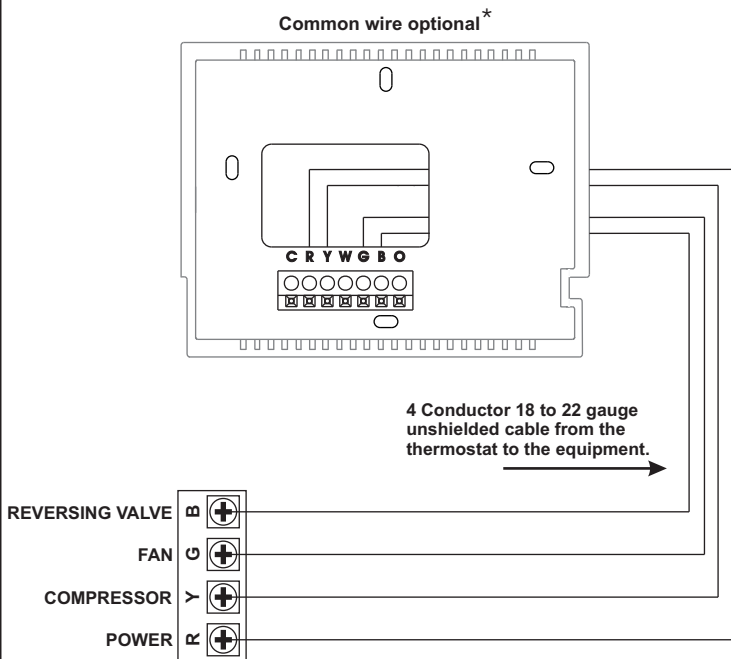
Residential Heat Pumps, split systems & package units, with auxiliary heat.



\* Common wire is optional in all installations. If a common wire is not used the thermostat must be powered by two AA alkaline batteries. These batteries must be replaced (page 11) each year or when the Low Battery indicator is displayed (page 3).

# Sample Wiring Diagrams

**4 Wire, 1 Stage Cooling, 1 Stage Heat-Heat Pump with B reversing valve.**  
Residential Heat Pumps, split systems & package units, with no auxiliary heat.

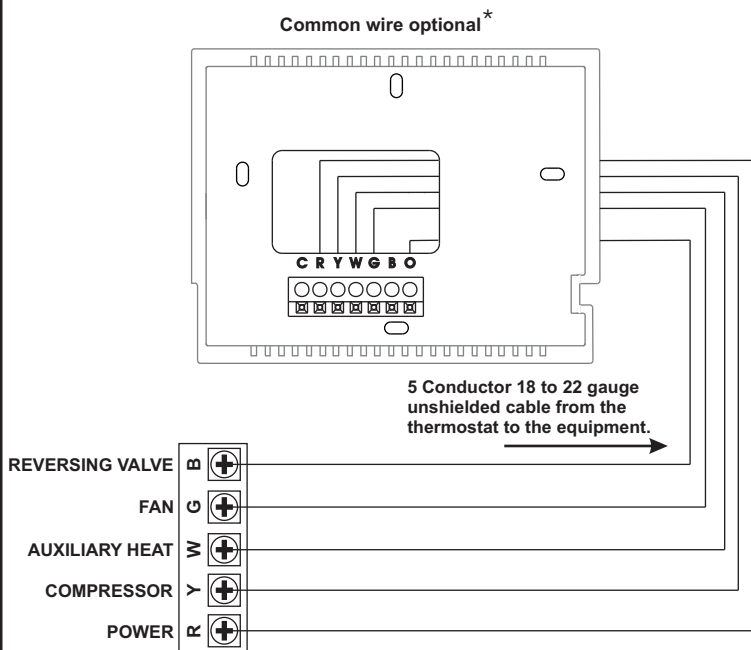


\* Common wire is optional in all installations. If a common wire is not used the thermostat must be powered by two AA alkaline batteries. These batteries must be replaced (page 11) each year or when the Low Battery indicator is displayed (page 3).

# Sample Wiring Diagrams

## 5 Wire, 1 Stage Cooling, 2 Stage Heat-Heat Pump with B reversing valve.

Residential Heat Pumps, split systems & package units, with auxiliary heat.



\* Common wire is optional in all installations. If a common wire is not used the thermostat must be powered by two AA alkaline batteries. These batteries must be replaced (page 11) each year or when the Low Battery indicator is displayed (page 3).



## Test Operation



Turn on the power to the Heat Pump.



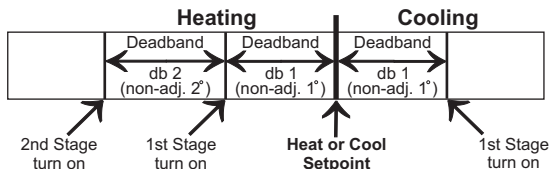
On the thermostat, slide the Mode Switch to **HEAT**. Press the COOLER or WARMER button until the set temperature is 10 degrees above room temperature. The HVAC unit should energize in the heating mode.

**Note:** *You may need to wait up to five minutes for heating to energize due to the compressor lockout feature. There is a two minute minimum run-time for first stage heating.*

On the thermostat, slide the Aux Heat Switch to the **NORMAL** position. The Aux Heat icon will appear indicating that the thermostat has energized Aux Heat (page 7).



**TWO STAGE OPERATION** - The 2nd stage of heat (auxiliary heat) is turned on when the room temperature is equal to or less than: *the setpoint minus the 1st stage deadband (one degree, non-adjustable), minus the 2nd stage deadband (two degrees, non-adjustable).*



## Test Operation

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On the thermostat, slide the Mode Switch to **COOL**. Press the COOLER or WARMER button until the set temperature is 10 degrees below room temperature. The HVAC unit should energize in the cooling mode (Page 6). **Note: You may need to wait up to five minutes for cooling to energize due to the compressor lockout feature.**



On the thermostat, slide the Mode Switch to **OFF**. Slide the Fan Switch to **Fan On**. The fan should turn on and run continuously (Page 6).

## Trouble Shooting

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**SYMPTOM:** The slide switches on the thermostat are very difficult to move.

**CAUSE:** The backplate of the thermostat is screwed too tightly into a wall that is not perfectly flat.

**REMEDY:** Loosen the screws holding the thermostat into the wall.



**SYMPTOM:** The Air Conditioning does not attempt to turn on.

**CAUSE:** The cooling setpoint is set too high, the Mode Switch is not set for Cool, the batteries are too weak, or the Aux. Heat Switch is set for Emergency.

**REMEDY:** Consult the Normal Operation section in this manual to:

- Lower the cooling setpoint (Page 6).
- Correct the Mode Switch position (Page 6).
- Replace the batteries (Page 11).
- Adjust the Aux Switch to Normal (page 7).



**SYMPTOM:** The fan does not turn on even though the compressor has energized.

**CAUSE:** The Fan Switch is not completely in the On or Auto position.

**REMEDY:** Slide the Fan Switch firmly into the On or Auto position.

# Trouble Shooting



**SYMPTOM:** Aux Heat does not turn on.  
**CAUSE:** The Aux Heat Switch is set for Lockout.

**REMEDY:** Consult the Aux Heat section of this manual to slide the Aux Heat Switch to Normal (Page 7).

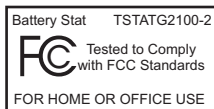


**SYMPTOM:** The Heating does not attempt to turn on.

**CAUSE:** The heating setpoint is set too high, the Mode Switch is not set for Heat, the batteries are too weak, or the Aux Heat Switch is set for Emergency.

**REMEDY:** Consult the Normal Operation section in this manual to:

- Raise the heating setpoint (Page 6).
- Correct the Mode Switch position (Page 6).
- Replace the batteries (Page 11).
- Adjust the Aux Switch to Normal (Page 7).



**Goodman**<sup>®</sup>  
Air Conditioning & Heating

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P/N 88-842

Rev. 1

## LIMITED WARRANTY

**Models: TSTAT\*1100-2, 2100-2, 1152-2, and 2152-2**

\*2200C, \*3271C, \*3272C, \*2111, \*3272, \*3273

This thermostat is warranted by Goodman Manufacturing Company, L.P. ("Goodman") to be free from defects in materials and workmanship under normal use and maintenance, as described below:

- **The thermostat is warranted for a period of ONE YEAR, except as provided below.**

No warranty continues after the thermostat is removed from the location where it was originally installed.

No warranty applies to, and no warranty is offered by Goodman on, any thermostat ordered over the Internet.

The warranty period begins on the date of the original installation. If that date cannot be verified, the warranty period begins twelve weeks from the date of manufacture (as indicated by the first four digits of the serial number (yyww) where "yy" indicates the year and "ww" indicates the week of manufacture).

As its only responsibility, and your only remedy, Goodman will, without charge, replace any thermostat or thermostat part found to be defective due to workmanship or materials under normal use and maintenance. For warranty credit, the defective thermostat or thermostat part must be returned to a Goodman heating and air conditioning products distributor by a state certified or licensed contractor.

This warranty does not apply to labor, freight, or any other cost associated with the service, repair or operation of the unit.

**This warranty is in lieu of all other express warranties. ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, ARE LIMITED TO THE DURATION OF THIS WARRANTY.**

Some states and provinces do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

**GOODMAN SHALL IN NO EVENT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO EXTRA UTILITY EXPENSES OR DAMAGES TO PROPERTY.**

Some states and provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you.

Goodman is not responsible for:

1. Damage or repairs required as a consequence of faulty installation or application.
2. Damage as a result of floods, fires, winds, lightning, accidents, corrosive atmosphere or other conditions beyond the control of Goodman.
3. Use of components or accessories not compatible with this thermostat.
4. Products installed outside the United States or Canada.
5. Damage or repairs required as a result of any improper use, maintenance, operation or servicing.
6. Failure to start due to interruption and/or inadequate electrical service.
7. Changes in the appearance of the unit that do not affect its performance.

This warranty gives you specific legal rights, and you may also have other rights that may vary from state to state or province to province.

Installer Name \_\_\_\_\_

Installation Date \_\_\_\_\_

Model # \_\_\_\_\_

Serial # \_\_\_\_\_

\* Amana® & Goodman® brand products

For further information about this warranty, contact Goodman Consumer Affairs at (877) 254-4729 or by mail to 7401 Security Way, Houston, Texas 77040.

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