



Whirlpool Gold WGFM195 Installation Instructions Manual

Gold gas-fired warm air furnace

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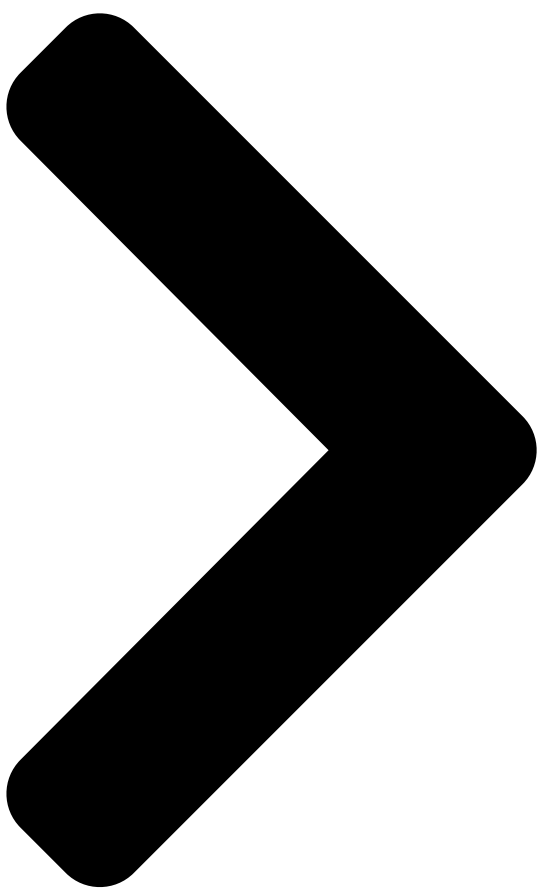
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GAS-FIRED WARM AIR FURNACE INSTALLATION INSTRUCTIONS

ATTENTION INSTALLATION PERSONNEL



As a professional installer, you have an obligation to know the product better than the customer. This includes all safety precautions and related items. Prior to actual installation, thoroughly familiarize yourself with this instruction manual. Pay special attention to all safety warnings. Often during installation or repair, it is possible to place yourself in a position which is more hazardous than when the unit is in operations. Remember, it is your responsibility to install the product safely and to know it well enough to be able to instruct a customer in its safe use. Safety is a matter of common sense...a matter of thinking before

acting. Most dealers have

a list of specific good safety practices...follow them.

The precautions listed in this installation manual are intended as supplemental to existing practices. However, if

there is a direct conflict between existing practices and the content of this manual, the precautions listed here take precedence.

placeholder

for Bar

Code

®

Whirlpool Gold

Models

WGFM195, WFD195,

WFD193, WFM195

WPIO-299N

(Type FSP Category IV Direct or Nondirect Vent Air Furnace)

Tradewinds Distributing Company, LLC

14610 Breakers Drive

Jacksonville, Florida 32258

These furnaces comply with requirements embodied in the American National Standard/National Standard of Canada ANSI Z21.47 CSA-2.3 Gas Fired Central Furnaces.

NOTE: Please contact your distributor or our website for applicable Specification Sheet referred to in this manual.



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Related Manuals for Whirlpool Gold WGFM195

[Furnace Whirlpool WGFM195 Installation Instructions Manual](#)

(48 pages)

[Furnace Whirlpool Gold WFD193 Installation Instructions Manual](#)

93 percent convertible multispeed gas furnace (44 pages)

[Furnace Whirlpool Gold WGGE45 Installation Instructions Manual](#)

Whirlpool gold models package gas electric furnaces (28 pages)

[Furnace Whirlpool WFCU Installation Instructions Manual](#)

90+ gas furnace (24 pages)

[Furnace Whirlpool WFCU Installation Instructions Manual](#)

(28 pages)

[Furnace Whirlpool WGFM29 Installation Instructions Manual](#)

93% and 95% 2-stage variable-speed gas furnace (52 pages)

[Furnace Whirlpool WGGE43 Installation Instructions Manual](#)

Package gas electric furnaces (32 pages)

[Furnace Whirlpool Gold WGFD295 Installation Instructions Manual](#)

80% 2-stage variable speed gas furnace (40 pages)

[Furnace Whirlpool WGFD293 Installation Instructions Manual](#)

93% and 95% 2-stage variable speed gas furnace (52 pages)

[Furnace Whirlpool WGFD28 Installation Instructions Manual](#)

80% 2-stage variable speed gas furnace gold models (40 pages)

[Furnace Whirlpool WFCT Installation Instructions Manual](#)

90+ multipositional gas furnace (32 pages)

[Furnace Whirlpool WGFBLT Installation Instructions Manual](#)

80% 2-stage variable speed gas furnace (28 pages)

[Furnace Whirlpool W2PG Installation Instructions Manual](#)

Package gas electric furnaces (20 pages)

[Furnace Whirlpool Whirlpool furnace User Instructions](#)

(12 pages)

[Furnace Whirlpool WFAU Installation Instructions Manual](#)

(24 pages)

[Furnace Whirlpool GAS FURNACE User Instructions](#)

(8 pages)

Summary of Contents for Whirlpool Gold WGFM195

[Page 1](#) Z21.47 CSA-2.3 Gas Fired Central Furnaces. for Bar NOTE: Please contact your distributor or our website for Code applicable Specification Sheet referred to in this manual. ® Whirlpool Gold Models Tradewinds Distributing Company, LLC WGFM195, WFD195, 14610 Breakers Drive WFD193, WFM195 Jacksonville, Florida 32258 WPIO-299N...

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Horizontal Installations—Left Side Down24 Diagnostic Chart.....43 Horizontal Drain Trap Mounting—Left or Right Side Panel..25 BLOWER PERFORMANCE DATA.....46 ELECTRICAL CONNECTIONS25 WIRING DIAGRAM—ALL WGFM195 EXCEPT Wiring Harness25 WGFM19509055C.....49 115-Volt Line Connections.....25 WIRING

[Page 3: Gas Furnace Safety Precautions](#)

GAS FURNACE SAFETY PRECAUTIONS Please adhere to the following warnings and cautions when installing, adjusting, altering, servicing or operating the furnace. To ensure proper installation and operation, thoroughly read this manual for specifics pertaining to the installation and application of this product. WARNING Recognize this symbol as a safety precaution.

[Page 4: Electrostatic Discharge \(Esd\) Precautions](#)

1. Make a notation on the delivery receipt of any visible damage WARNING to the shipment or container. Goodman 43 2. Notify the carrier promptly and request an inspection. Should overheating occur or the gas supply fail to shut 3. With concealed damage, the carrier must be notified as soon off, turn off the manual gas shutoff valve external to the as possible—preferably within 5 days.

[Page 5: Component Identification](#)

Component Identification Upflow/Horizontal Counterflow/Horizontal CU T FO R DE HU M A. Gas control valve I. Flame sensor Q. Electrical connection inlets (alternate) Y. Integrated control module (with fuse and diagnostic LED) B. Gas line entrance (alternate) J. Flue pipe connection/coupling R.

[Page 6: Location Requirements And Considerations](#)

This furnace is an ETL dual-certified appliance and is appropriate WARNING for use with Natural or propane gas Goodman 49 NOTE: If you are using propane, a propane conversion kit is To prevent property damage, personal injury or death due required.

[Page 7: Clearances And Accessibility](#)

Locate the furnace so that the condensate flows downward Do not connect the furnace to a chimney flue that serves a to the drain. separate appliance designed to burn solid fuel. NOTE: Do not locate the furnace or its condensate drainage On counterflow installations, the air conditioning coil must be system in any area subject to below freezing temperatures downstream on the supply (positive) side of the furnace heat...

[Page 8: Furnace Suspension](#)

7. Test for spillage from draft hood appliances at the draft hood relief opening after 5 minutes of main burner operation. Use Furnace Suspension the flame of a match or candle. If suspending the furnace from rafters or joists, use 3/8" threaded 8.

[Page 9](#) House depressurization can cause back drafting or improper Space, Unconfined. combustion of gas-fired appliances, thereby exposing building For purposes of this Code, a space whose volume is not less occupants to gas combustion products that could include carbon than 50 cu ft per 1,000 Btu/h of the aggregate input rating of all monoxide.

[Page 10](#) Equipment Located in Confined Spaces: All Air from Equipment Located in Confined Spaces: All Air from Outdoors—Inlet Air from Ventilated Crawl Space and Outdoors. See 5.3.3-b. Outlet Air to Ventilated Attic. See 5.3.3-b. NOTES: NOTE: The inlet and outlet air openings must each have a free The air duct openings must each have a free area of not less area of not less than 1 sq.

[Page 11: Installation Positions](#)

5.3.4 Specially Engineered Installations: Alternate electrical and gas line connections The requirements of 5.3.3 shall not necessarily govern when Drain pan special engineering, approved by the authority having Freeze protection jurisdiction, provides an adequate supply of air for combustion, Furnace suspension. ventilation, and dilution of flue gases.

[Page 12](#) When using the horizontal alternate vent configuration, you must Recommended Installation Positions—Upright Counterflow use the RF000142 vent drain kit. See “Alternate Flue/Vent Location” illustration. NOTE: Alternate vertical piping connections cannot be used when an upflow furnace is installed with the supply air discharging to the right, or when a

counterflow furnace is installed with the supply air discharging to the left.

[Page 13: Alternate Electrical And Gas Line Connections](#)

Recommended Installation Positions—Horizontal For installations above 7,000 ft (2,133.6 m), refer to your Counterflow—Left Side Panel Discharge distributor for required kit(s). WFD19, WGFM19, WGFM29, WGFD29 Gas Orifice Chart Pressure Manifold Switch Altitude Orifice Pressure Change 0 to Natural None 3.5" W.C. None A.

[Page 14: Dual Certification: Nondirect/Direct Vent](#)

NOTES: All 90° elbows must be medium-radius ($\frac{1}{4}$ bend DWV) or long-radius (long sweep $\frac{1}{4}$ bend DWV) types conforming to This furnace must not be connected to Type B, BW, or L vent ASTM D3311. A medium-radius ($\frac{1}{4}$ bend DWV) elbow measures or vent connector, and must not be vented into any portion of $3\frac{1}{16}$ "...

[Page 15: Canadian Venting Requirements](#)

The vent termination of vent pipe run vertically through a roof must terminate at least 12" (30.5 cm) above the roof line (or Vent/Flue Pipe the anticipated snow level) and be at least 12" (30.5 cm) from Vent/flue pipe can be secured to the vent/flue coupling using the any vertical wall (including any anticipated snow buildup).

[Page 16: Combustion Air Pipe-Nondirect Vent Installations](#)

Combustion Air Pipe—Nondirect Vent Installations Alternate Furnace Connections A minimum of one 90° elbow should be installed on the If the standard locations are undesirable for a specific installation, combustion air intake coupling to guard against inadvertent alternate side panel locations are available for both combustion air inlet and vent/flue pipe connections.

[Page 17](#) Vent/Flue Pipe Cuts Alternate Vent/Flue Location—Upflow C. $3\frac{3}{4}$ " (9.5 cm) A. Flange B. Cut location A. Vent/flue pipe D. Rubber elbow B. Screw locations (4) E. Induced draft Upflow Units blower C. Plastic plug—alternate vent/flue location 6. Remove the plastic plug from the alternate vent/flue location. 7.

[Page 18: Nondirect Vent \(Single Pipe\) Piping](#)

Nondirect Vent (Single Pipe) Piping Vent/Flue Pipe Terminations Nondirect vent installations require only a vent/flue pipe. The vent NOTE: If either a 90° or 45° elbow is used for termination, it must pipe can be run horizontally with an exit through the side of the be pointed downward.

[Page 19: Direct Vent \(Dual Pipe\) Piping](#)

Alternate Vertical Vent Termination (Single Pipe) Standard Horizontal Vent Termination (Single Pipe)— Above Highest Anticipated Snow Level A. 45° or 90° medium radius elbows B. 12" (30.5 cm) minimum to roof or A. 12" (30.5 cm) minimum from wall highest anticipated snow level B.

[Page 20: Vent/Flue And Combustion Air Pipe Terminations](#)

Direct Vent (Dual Pipe) Maximum Allowable Length of Vent/Flue and Combustion Air Intake Pipe—ft (m) Number of Elbows Unit Input (Btu) Termination Style Pipe—in. (cm) 040_3 or 045_3 Standard 2 or $2\frac{1}{2}$ (5.12 or 6.4) 68 (20.7) 65 (19.8) 62 (18.9) 59 (18) 56 (17.1) 53 (16.2) 50 (15.2) Alternate 2 or $2\frac{1}{2}$...

[Page 21: Vent/Intake Terminations For Installation Of Multiple Direct Vent Furnaces](#)

Standard Horizontal Vent Terminations (Dual Pipe) Alternate Horizontal Terminations (Dual Pipe)—Above Highest Anticipated Snow Level A. 24" (61 cm) maximum, 3" D. 12" (30.5 cm) minimum to roof or (7.6 cm) minimum highest anticipated snow level B. 12" (30.5 cm) minimum from E.

[Page 22: Concentric Vent Termination](#)

Concentric Vent Termination Standard Right or Left Side Drain Hose Connections Refer to the directions provided with the Concentric Vent Kit (DCVK) for installation specifications. All installation positions require the use of the drain trap, hoses, tubes and clamps. The following quantity of hoses, tubes, and Side Wall Vent Kit hose clamps are provided with the unit.

[Page 23: Upright Installations-Trap On Left Side](#)

Upright Standard Connections—Right Side Upflow Alternate Upright Upflow Connections—Right Side Only (Counterflow Similar) (Counterflow Similar) A. Right side panel E. Tube 1 I. Drain trap B. Rubber elbow F. Hose B J. Green hose clamps (3) A. Front cover drain port G.

[Page 24: Upright Drain Trap Mounting-Left Or Right Side Panel](#)

Upright Standard Connections—Left Side Upflow 5. Insert Tube 1 into the rubber elbow drain port and secure with (Counterflow Similar) a silver hose clamp. NOTE: Angle tube outward toward front of furnace. 6. Cut 17¾" (45.1 cm) from the long end of Hose B. Discard cut portion.

[Page 25: Horizontal Drain Trap Mounting-Left Or Right Side Panel](#)

5. Remove the rubber cap from the side drain port on the rubber elbow. ELECTRICAL CONNECTIONS 6. Secure the short end of Hose B to the rubber elbow side drain port using a green hose clamp. NOTES: WARNING For left side drainage, route Hose B to the far left (down) Goodman 70-A side panel grommet holes.

[Page 26: Junction Box Relocation](#)

Line polarity must be observed when making field connections. Line voltage connections can be made through either the right or 24-Volt Thermostat Wiring left side panel. The furnace is shipped configured for a left side NOTE: Wire routing must not interfere with circulator blower (right side for counterflows) electrical connection with the operation, filter removal or routine maintenance.

[Page 27: 115-Volt Line Connection Of Accessories \(Humidifier And Electronic Air Cleaner\)](#)

Field Wiring for WFM19 Furnace with 2-Stage Condenser Optional Accessories Wiring Electronic Air Cleaner 120 VAC Hot and Park Terminals 120 VAC Neutral Terminals Integrated Control 12-Pin Connector Module If it is necessary for the installer to supply additional line voltage A.

[Page 28: Gas Supply And Piping](#)

GAS SUPPLY AND PIPING The furnace rating plate includes the approved furnace gas input rating and gas types. The furnace must be equipped to operate Propane Gas Conversion on the type of gas applied. This includes any conversion kits required for alternate fuels and/or high altitude. WARNING CAUTION Possible property damage, personal injury or death may...

[Page 29](#) The gas piping supplying the furnace must be properly sized Always use a backup wrench when making the connection to based on the gas flow required, specific gravity of the gas and the gas control valve to keep it from turning. the length of the run.

[Page 30](#) Gas Piping Connections—Counterflow Gas Piping Connections—Horizontal Counterflow A. Manual shutoff valve (upstream F. Burners from ground joint pipe union) G. Grommet in standard gas line hole B. Alternate gas line location A. Gas control valve F. Drain trap H. Ground joint pipe union C.

[Page 31: Gas Piping Checks](#)

propane gas. Do not rely on your sense of smell. Contact a local propane gas supplier about installing a gas detecting warning Gas Piping Checks system. Before placing the furnace in operation, leak test the furnace and All propane gas equipment must conform to the safety standards gas connections.

[Page 32: Circulating Air And Filters](#)

Propane Gas Piping Chart I Tubing Size, O.D. Type L Nominal Pipe Size Schedule 40 Pipe or Tubing Length—ft (m) ¾" ½" ⅝" ¾" ⅞" ½" ¾" 150 (45.7) 1,300 2,100 1,900 175 (53.3) 1,200 1,900 1,700 200 (61) 1,100 1,800 1,500 To convert to capacities at 15 psig settings—multiply by 1.13.

[Page 33: Checking Duct Static](#)

Checking Duct Static Bottom Return Air Opening—Upflow Models] Refer to your furnace rating plate for the maximum ESP (external The bottom return air opening on upflow models utilizes a "lance duct static) rating. and cut" method to remove sheet metal from the duct opening in the

base pan.

[Page 34](#) Minimum Filter Requirements Chart Cooling Airflow Requirement (CFM)—Permanent Minimum Filter Area (sq. in.) Based On 600 ft (182.9 m) Per Minute Filter Face Velocity Input Airflow 1,000 1,200 1,400 1,600 2,000 040_3BXA or 194* 045_3BXA 060_3BXA or 324* 324* 324* 070_3BXA 070_4CXA 291*...

[Page 35: Start-Up Procedure And Adjustment](#)

START-UP PROCEDURE AND ADJUSTMENT This furnace must have a 115 VAC power supply properly 9. Replace the burner compartment door. connected and grounded. Proper polarity must be maintained for 10. Open the manual gas shutoff valve external to the furnace. correct operation.

[Page 36](#) Gas Control Valve—White-Rodgers 36G54 Connected to 1. Turn off the gas supply to the furnace at the manual gas Manometer shutoff valve external to the furnace. 2. Disconnect all electrical power to the system. 3. Connect a calibrated water manometer (or appropriate gas pressure gauge) at either the gas control valve inlet pressure boss or the gas piping drip leg.

[Page 37: Gas Manifold Pressure Measurement And Adjustment](#)

21. Using a leak detection solution or soap suds, check for leaks at the outlet pressure boss plug (Honeywell valve) or screw Gas Manifold Pressure Measurement and (White-Rodgers valve). Bubbles forming indicate a leak. Adjustment IMPORTANT: If a leak is detected, turn off gas immediately and repair all leaks.

[Page 38: Circulator Blower Speeds](#)

3. Place thermometers in the return and supply ducts as close 4. Connect all of the unused blower motor leads to the "PARK" to the furnace as possible. Thermometers must not be terminals on the integrated control module. Any leads not influenced by radiant heat from the heat exchanger.

[Page 39: Heating Mode-Mode Dip Switch Set To 2 Stg Position](#)

Furnace operates; integrated control module monitors safety circuits continuously. Cooling Mode R and W thermostat contacts open, completing the call for The normal operational sequence in cooling mode is as follows: heat. R and Y thermostat contacts close, initiating a call for cool. Gas control valve closes, extinguishing flame.

[Page 40: Safety Circuit Description](#)

SAFETY CIRCUIT DESCRIPTION MAINTENANCE WARNING WARNING Goodman 96 To avoid personal injury or death due to electrical shock, HIGH VOLTAGE! Goodman 74 do not remove any internal compartment covers or To avoid personal injury or death due to attempt any adjustment. Contact a qualified servicer at electrical shock, disconnect electrical power once if an abnormal flame should develop.

[Page 41: Burners](#)

A media air filter or electronic air cleaner can be used as an alternate filter. Follow the filter sizes given in the Recommended Flame Sensor (Qualified Servicer Only) Minimum Filter Size chart to ensure proper unit performance. Under some conditions, the fuel or air supply can create a nearly To remove filters from an external filter rack in an upright upflow invisible coating on the flame sensor.

[Page 42: Before Leaving An Installation](#)

Before Leaving an Installation Cycle the furnace with the thermostat at least 3 times. Verify Review the Owner's Manual with the homeowner and discuss cooling and fan only operation. proper furnace operation and maintenance. Leave literature packet near furnace. Repair and Replacement Parts When ordering any of the listed functional parts, be sure to Functional Parts List provide the furnace model, manufacturing and serial numbers...

[Page 43: Diagnostic Chart](#)

Diagnostic Chart WARNING Goodman 118 Long HIGH VOLTAGE! To avoid personal injury or death due to electrical shock, disconnect electrical power before performing any service or maintenance. The dual 7-segment LED display will display an error code that may contain a

letter and number. The error code may be used to assist in troubleshooting the unit.

[Page 44](#) Symptoms of Abnormal Associated Notes and Operation LED Code Fault Description
Possible Causes Corrective Actions Cautions Furnace fails to 2 flashes Pressure switch Induced
draft blower Replace induced draft Turn off power operate. circuit is closed. pressure switch
blower pressure prior to repair.

[Page 45](#) Symptoms of Abnormal Associated Notes and Operation LED Code Fault Description
Possible Causes Corrective Actions Cautions No furnace 6 flashes Rollout limit Flame rollout.
Check burners for Turn off power operation. switch open. proper alignment. prior to repair.
Misaligned burners, Integrated Integrated blocked flue and/or air...

[Page 46: Blower Performance Data](#)

BLOWER PERFORMANCE DATA Blower Performance Data CFM and Temperature Rise vs.
External Static Pressure Tons External Static Pressure (Inches Water Column) AC at
Model—Heating Motor 0.5" Speed as Shipped Speed Rise CFM Rise CFM Rise CFM Rise CFM Rise
CFM CFM CFM WGFM1950453BXA High 1,352...

[Page 47](#) Blower Performance Data CFM and Temperature Rise vs. External Static Pressure
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High 1,415 1,352...

[Page 48](#) Blower Performance Data CFM and Temperature Rise vs. External Static Pressure
Tons External Static Pressure (Inches Water Column) AC at Model—Heating Motor 0.5" Speed as
Shipped Speed Rise CFM Rise CFM Rise CFM Rise CFM Rise CFM CFM CFM WFM195060E3BX T1-
Low 109 422 (MED-HI)

[Page 49: Wiring Diagram-All Wgfm195 Except Wgfm195090S5C](#)

WIRING DIAGRAM—ALL WGFM195 EXCEPT WGFM195090S5C WARNING Goodman 6 Long HIGH
VOLTAGE! Disconnect ALL power before servicing. Multiple power sources may be present.
Failure to do so may cause property damage, personal injury or death. 24 VAC Humidifier TR(6)
24 VAC...

[Page 50: Wiring Diagram-All Wfd195 And Wgfm195090S5C](#)

WIRING DIAGRAM—ALL WFD195 AND WGFM195090S5C WARNING HIGH VOLTAGE! Goodman 6
Long Disconnect ALL power before servicing. Multiple power sources may be present. Failure to
do so may cause property damage, personal injury or death. TR(6) 24 VAC GND(8) Equipment
GND 40 VA MVC(9) Transformer...

[Page 51: Wiring Diagram-All Wfm19](#)

WIRING DIAGRAM—ALL WFM19 WARNING HIGH VOLTAGE! Goodman 6 Long Disconnect ALL
power before servicing. Multiple power sources may be present. Failure to do so may cause
property damage, personal injury or death. TR(6) Equipment GND GND(8) Field GND MVC(9)
Field Splice MVH(12) Switch (Temperature) MVL(2)

[Page 52: Assistance Or Service](#)

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manufacturer. All other trademarks are owned by their respective companies.

This manual is also suitable for:

Gold wfd195Gold wfm195Wpio-299nGold wfd193