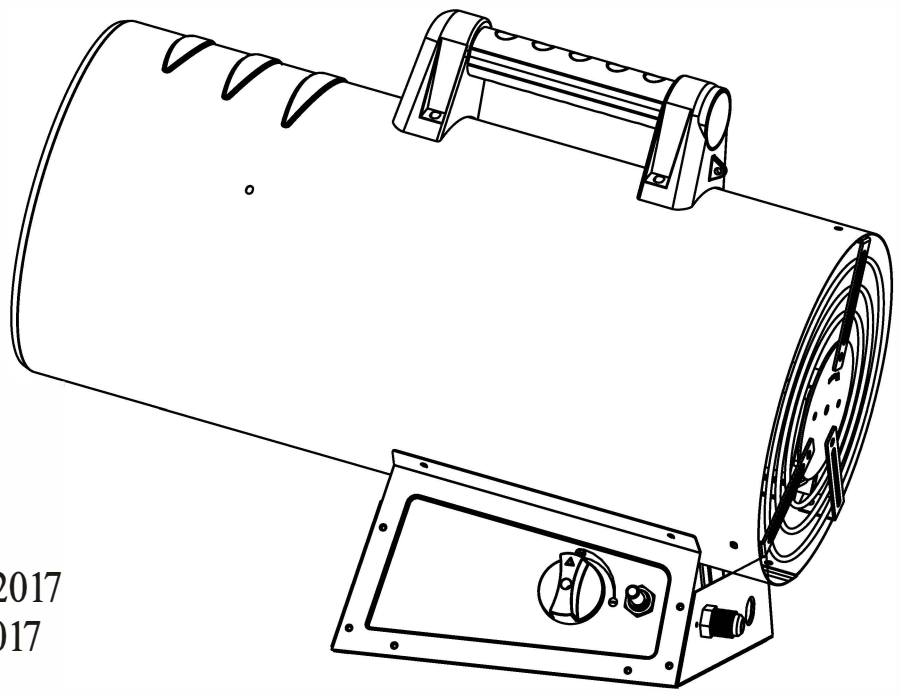
PROPANE FORCED AIR HEATER

WHD-0301 / WHD-0302

READ INSTRUCTIONS CAREFULLY:

Read and follow all instructions. Place instructions in a safe place for future reference. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the heater.



C US

ANSI Z83.7-2017
CSA 2.14-2017

⚠ **WARNING: If the information in this manual is not followed exactly, a fire or explosion may cause property damage, personal injury or loss of life.**

— Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

— Service must be performed by a qualified service agency.

This is an unvented portable heater. It uses air (oxygen) from the area in which it is used. Adequate combustion and ventilation air must be provided. Refer to page 3.

Forced Air means that a blower or fan pushes the air through the heater. Proper combustion depends upon this air flow; therefore, the heater must not be revised, modified or operated with parts removed or missing. Likewise, safety systems must not be circumvented or modified in order to operate the heater.

IMPORTANT: **Read and understand this manual before assembling, starting or servicing heater. Improper use of heater can cause serious injury. Keep this manual for future reference.**

⚠ GENERAL HAZARD WARNING:

Failure to comply with the precautions and instructions provided with this heater can result in death, serious bodily injury and property loss or damage from hazards of fre, explosion, burn, asphyxiation, carbon monoxide poisoning and/or electrical shock.

Only persons who can understand and follow the instructions should use this heater.

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⚠WARNING!

Manufacturer and seller expressly disclaim any and all liability from personal injury, property damage or loss, whether direct or indirect, or incidental, resulting from the incorrect attachment, improper use, inadequate maintenance, or neglect of this product.

SAFETY

⚠WARNING: Fire, burn, inhalation and explosion hazard. Keep solid combustibles, such as building materials, paper or cardboard, a safe distance away from the heater as recommended by the instructions. Never use the heater in spaces which do or may contain volatile or airborne combustibles or products such as gasoline, solvents, paint thinner, dust particles or unknown chemicals.

⚠WARNING: Not for home or recreational vehicle use.

The heater is designed for use as a construction heater in accordance with ANSI Z83.7•CGA2.14. (Check with your local fire safety authority if you have questions about heater use.) Other standards govern the use of fuel gases and heating products for specific uses. Your local authority can advise you about these. The primary purpose of construction heaters is to provide temporary heating of buildings under construction, alteration or repair. Properly used, the heater provides safe, economical heating. Products of combustion are vented into the area being heated.

We cannot foresee every use which may be made of this heater. **Check with your local fire safety authority if you have questions about heater use.**

Propane Gas: Propane gas is odorless. An odor-making agent is added to propane gas. The odor helps you detect a propane gas leak. However, the odor added to propane gas can fade. Propane gas may be present even though no odor exists.

⚠ **Carbon Monoxide Poisoning:** Early signs of carbon monoxide poisoning resemble the flu with headache, dizziness and/or nausea. If you have these signs, the heater may not be working properly. Get fresh air at once! Check for proper ventilation and have the heater serviced.

IMPORTANT SAFETY INFORMATION

1. Install and use the heater with care. Follow all local ordinances and codes. In the absence of local ordinances and codes, refer to the Standard for Storage and Handling of Liquefied Petroleum Gas, ANSI/NFPA 58 and the Propane Gas Installation Code, CAN/CGA B149.2. This instructs on the safe storage and handling of propane gases.
2. Use only the electrical voltage and frequency specified on the model plate. The electrical connections and grounding of the heater shall follow the National Electric Code, ANSI/NFPA 70 or Canadian Electrical Code, Part 1
3. Electrical grounding instructions - This appliance is equipped with a three-prong (grounding) plug for your protection against shock hazards and should be plugged directly into a properly grounded three-prong receptacle or extension cord.
4. Use only a three-prong, grounded extension cord.
5. Use only the hose and factory preset regulator provided with the heater.
6. Use only propane gas set up for vapor withdrawal.
7. Provide adequate ventilation. Before using the heater, provide at least a three square foot opening of fresh, outside air for each 100,000 BTU (105,500 KJ/Hr) of rating.
8. For well-ventilated indoor use ONLY. Provide a fresh air opening of AT LEAST 3 ft² for each 100,000BTU/HR rating. 2 ft² opening near floor and 2 ft² opening near ceiling are recommended for this heater.
9. Do not use the heater in a basement or below ground level. Propane gas is heavier than air. If a leak occurs, propane gas will sink to the lowest possible level.
10. Keep the appliance area clear and free from combustible materials, gasoline, paint thinner and other flammable vapors and liquids.
11. Do not use the heater in areas with high dust content. Dust is combustible.
12. Minimum heater clearances from combustibles: Outlet: 8 ft. (2.4 m), Sides: 2 ft. (0.61 m), Top: 6 ft. (1.83 m), Rear: 2 ft. (0.61 m).
13. The heater must be located at least 7 ft. (2.13 m) in the USA or 10 ft. (3 m) in Canada from any propane gas container. And the heater shall not be directed toward propane gas containers.
14. Not intended for use on finished floors.
15. Never block the air inlet (rear) or the air outlet (front) on the heater.

SAFETY

Continued

16. Keep heater away from strong drafts, water spray, rain or dripping water.
17. Do not leave the heater unattended.
18. Keep children and animals away from the heater.
19. Check the hose before each use of the heater. If highly worn or cut, replace with a hose specified by manufacturer before using heater.
20. Locate the heater on stable and level surface if heater is hot or operating.
21. To prevent injury, wear gloves when handling heater.
22. Never attach duct work to the heater.
23. Do not alter the heater. Keep the heater in its original state.
24. Never move, handle, or service the heater before it is plugged out from the socket and cool down throughly. Otherwise, electric shock hazards ,burning hazards might occur.

UNPACKING

1. Remove all items from the carton.
2. Remove all packing items applied to the heater for shipment. Keep plastic cover caps (attached to inlet connector and hose/regulator assembly) for storage.
3. Check all items for shipping damage. If the heater is damaged, contact customer service.

PRODUCT IDENTIFICATION

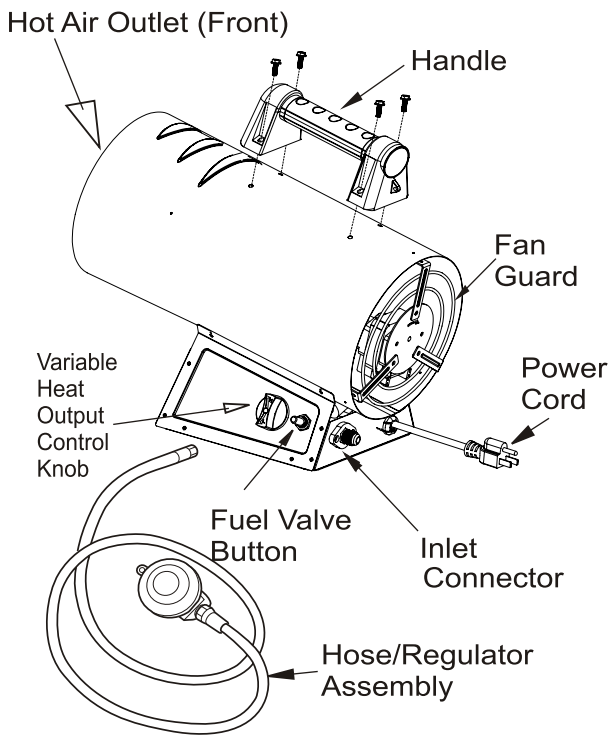


Figure 1 - Variable 85-125,000 BTU/Hr (heater may vary from illustration)

Any modification to the product or failure to follow recommended care will void the product warranty.

PROPANE SUPPLY

Propane gas and propane tank(s) are to be furnished by the user.

Use this heater only with a propane vapor withdrawal supply system. The installer must conform with local codes or, in absence of local codes, with the Standard for the Storage and Handling of Liquefied Petroleum Gases, ANSI/NFPA 58 and Propane Gas Installation Code, CAN/CGA B149.1.

NOTE:
1. DO NOT use this heater when the ambient temperature drops to or below 0˚F （−18˚C）. The propane vaporization efficiency will be too low for this heater to work properly.
2. A larger propane cylinder,such as a 40lb or 100lb, is recommended to use to optimize the heater performance, especially when the ambient temperature is low (but over 0˚F).
3. Heating efficiency will decrease when using this heater at high altitude(over 6000 feet) area due to the low oxygen level situation.

INSTALLATION

⚠ WARNING: To operate the heater safely, review and understand the warnings in the *Safety* section, page 3. Follow all local codes when using this heater.

⚠WARNING: Test all gas piping and connections for leaks after installation or servicing. Never use an open flame to check for a leak. Apply a mixture of liquid soap and water to all joints. Bubbles forming show a leak. Correct all leaks at once.

1.Check the heater for possible shipping damage.
2. Install the handle properly.
2. Follow all of the "SAFETY "info.
3. Connect the POL fitting of the regulator to the propane tank by rotating it counter-clockwise into the tank valve properly. DO NOT cross thread. Then tighten with a wrench. IMPORTANT: Make sure the regulator vent hole points down for better working performance.
4. Connect the hose of the regulator assembly to the heater inlet connector by rotating the hose fitting clockwise. DO NOT cross thread. Then tighten with a wrench. IMPORTANT: DO NOT use other regulator except the one comes with the heater in the original package.
5. Open the cylinder's gas valve and check leakage at every connection with soapy water. DO NOT USE A FLAME.

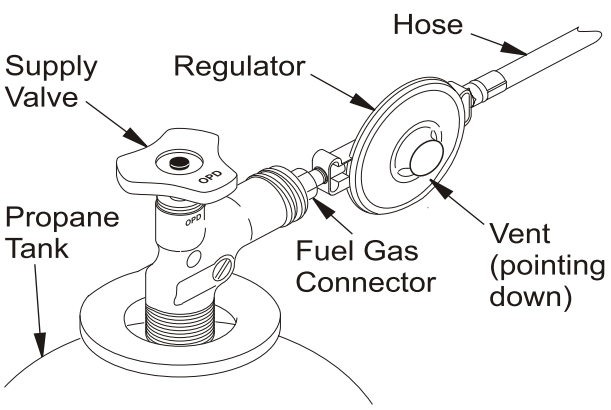


Figure 3 - Regulator With Vent Pointing Down

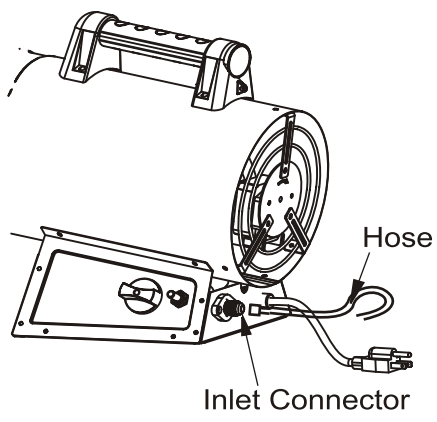


Figure 4 - Hose and Inlet Connector (heater may vary from illustration)

VENTILATION

⚠WARNING: Follow the minimum fresh, outside air ventilation requirements. If proper fresh, outside air ventilation is not provided, carbon monoxide poisoning can occur. Provide proper fresh, outside air ventilation before running heater.

Provide a fresh air opening of AT LEAST 3 ft² for each 100,000BTU/HR rating. 2 ft² opening near floor and 2 ft² opening near ceiling are recommended for this heater.

OPERATION

⚠WARNING: To operate the heater safely, review and understand the warnings in the *Safety* section, page 3. Follow all local codes when using this heater.

TO START HEATER

1. Read and carefully follow all installation, ventilation and safety information.
2. Place the heater on a stable and level surface. Keep combustible materials away from the heater. Min. clearance : 8ft(2.4m) from the flame outlet. 2ft(0.6m) from the heater side and rear end. 6ft(1.8m) from the top of the heater. DO NOT point the heater towards the propane cylinder.
3. Connect power cord to well-grounded power source, 120V, 60Hz, 1Ø. When a extension cord is necessary to use.It must meet the requirements as below:
   - Extension cord must be UL/CSA listed, 3-prong and grounded, at least 6ft(1.8m) long.
   - For extension cord less than 50ft(15m) , use 18AWG rated cord. - For extension cord between 50ft(15m) to 100ft(30m), use 16AWG rated cord.
   - For extension cord between 101ft to 200ft(60m) use 14AWG rated cord.
4. Before ignition, always allow heater fan(blower) to run for 20 seconds to purge unburnt propane out. Especially when re-ignition after last use.
5. Open the propane cylinder valve slowly.

⚠WARNING: Check and be sure fan(blower) is running before press the fuel valve button to light the heater.

6. Press the fuel valve button(the red one at the right of the control knob) to light the heater. After the heater lights, keep the fuel valve button depressed for 30 seconds then release. The heater will continue to operate.
7. Adjust the heating output by rotating the control knob to desired level. Note: No thermostat usable with this heater.
8. If heater outlet height needs to be adjust, turn off the heater(refer to "TO STOP HEATER" and wait for it cools down throughly. Then loosen the pinching screw at the front base of the heater. Adjust the height plate to the desired height and tighten the pinching screw properly.

TO STOP HEATER

1. Tightly close the propane supply valve on the propane tank(s).
2. Wait a few seconds. The heater will burn gas remaining in the supply hose.
3. Unplug the heater power supply cord.The overheat protection will be trigged in seconds. Before restart the heater, remember to wait for 2 minutes to allow the overheat protection restore.

⚠ Overheat Protection Feature

This heater is designed with a overheat protection feature. It will be activated in the following situation:

Scenario 1: The fan(blower) stops running when power cord is unplugged.

Scenario 2: The fan(blower) stops running when power failure happens. In this case, the fan(blower) will continue to run once the power recovers.

Scenario 3: The ambient temperature goes up to 82°F (28°C)~35°C (95°F). In this case, the fan(blower will keep running.

Wait for 2 minutes after overheat protection activated(heater flame goes out). Then proceed with restart.

MAINTENANCE

⚠ WARNINGS

- **Never service heater while it is plugged in, connected to propane supply, operating or hot. Severe burns and electrical shock can occur.**
- **Keep heater clear and free from combustible materials, gasoline and other flammable vapors and liquids.**
- **Do not block the flow of combustion or ventilation air.**

1. Keep the heater clean. Clean heater annually or as needed to remove dust and debris. If the heater is dirty or dusty, clean heater with a damp cloth, use household cleaners on difficult spots.
2. Inspect heater before each use. Check connections for leaks. Apply mixture of liquid soap and water to connections. Bubbles forming show a leak. Correct all leaks at once.
3. Inspect the hose/regulator assembly before each use. If the hose is highly worn or cut, replace with hose specified by manufacturer.
4. Have the heater inspected yearly by a qualified service agency.

STORAGE

⚠ CAUTION: Disconnect the heater from propane supply tank(s).

1. Store propane tank(s) in safe manner. When the heater is stored indoors, the connection between the propane supply cylinder and the heater must be disconnected.
2. Store propane cylinder(s) in accordance with local laws and regulations. In the absence of local codes, follow the Standard for the Storage and Handling of Liquefied Petroleum Gases, ANSI/NFPA 58 and Propane Storage and Handling Code, CSA B149.2.
3. Place plastic cover caps over brass fittings on inlet connector and hose/regulator assembly.
4. Store in a cool, dry location. Do not store in locations that are exposed to water or high moisture.
5. Covering the heater while in storage will help prevent dust and debris build-up. Ensure the heater is fully cool before covering.

Any modification to the product or failure to follow recommended care will void the product warranty.

⚠WARNING!

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TROUBLESHOOTING

⚠ WARNING: Never service heater while it is plugged in, connected to propane supply, operating or hot. Severe burns and electrical shock can occur.

PROBLEM	POSSIBLE CAUSE	SOLUTIONS
Fan(blower) does not run.	Power failure.	Check the power supply.
	Power cord unplugged or not plugged in properly.	Check and make sure the power cord is plugged into the power outlet properly.
	Wrong power source connected.	Connect this heater to 120V, 60Hz, 1 phase power source. The fan(blower) won't run if the voltage is below 93V. The fan(blower) will burn out if the voltage is over 125V.
	Fan blade entangled.	Clear the fan blade.
Heater does not ignite	Propane cylinder valve is not on.	Turn on the propane cylinder valve on slowly.
	Empty propane cylinder/cylinder frosted at its bottom.	Change for a full cynlinder.
	The igniter does not spark.	Check if the igniter cable is loose. If yes, replug it onto the main board. Check if gap between the igniter electrode and target plate is correct(0.17")
	Defective regulator. The propane won't flow when fuel valve button depressed.	Contact the customer service for replacement.
	Overheat protection is activated.	Wait for 2 minutes before restart the heater.
Flame does not stay on.	The thermocoupler is not well-heaterd.	Once the heater lights, depress the fuel valve button for 30 seconds then release.
Flame goes out suddenly.	Power off(fan stops running)	Change for power supply.
	Overheat protection is activated(fan keeps running)	When the ambient temperature goes up to 82°F(28℃)~35℃(95°F) the overheat protection will be triggered. In this case, the fan(blower will keep running. Wait for 2 minutes before restart the heater.
Flame goes out slowly. Flame color changes from blue to yellow then goes out.	Propane runs out.	Change for a full propane cynlinder.
	Resticted air flow.	Check the heater air inlet and outlet .Remove any obstructions.

⚠ WARNING:

Do not use the heater in areas with high dust content. Dust is combustible.

⚠WARNING!

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SPECIFICATIONS

ALL MODELS

- Electrical Input:
  120V, 60 Hz, 1Ø, Direct Spark Ignition
- Primary Flame Control:
  Thermocouple operated gas valve
- Heater Working Ambient Temp. Min.: 0℉(-18℃)
  Heater Working Ambient Temp. Max.: 82℉(28℃)~95℉(35℃)
- Operating Voltage Range:93.5~125V

85,000 BTU/HR MODEL

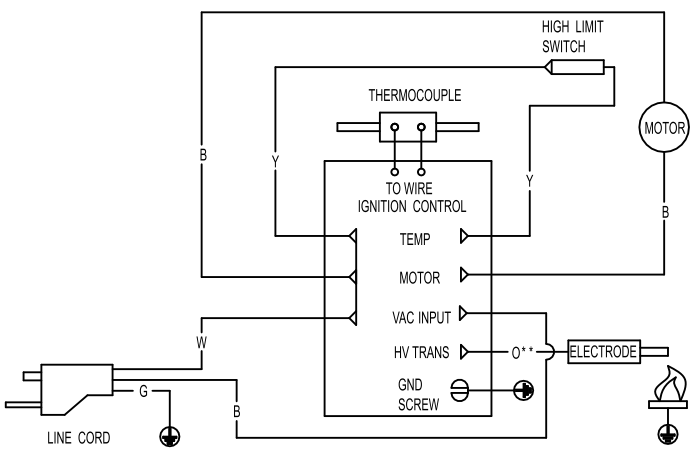
- 50,000-85,000 BTU/hr (14.6-25.0 kW)
- Fuel Consumption:
  2.3 - 3.9 pounds/hr (1.05 - 1.78 kg/hr)
- Fuel: Propane/LP Gas
- Gas Supply Pressure to Regulator:
  Max - Bottle Pressure, Min - 20 psig (137.8kPa)
- Gas Supply Pressure Regulator Out:
  10psig (68.9 kPa)

125,000 BTU/HR MODEL

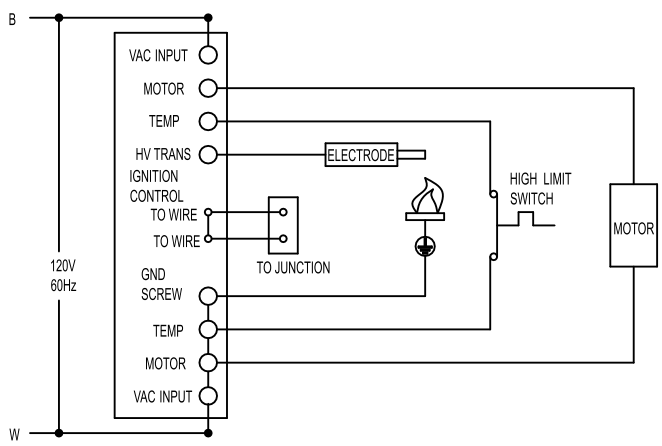
- 75,000-125,000 BTU/hr (21.9-36.6 kW)
- Fuel Consumption:
  3.5 - 5.8 pounds/hr (1.57 - 2.62 kg/hr)
- Fuel: Propane/LP Gas
- Gas Supply Pressure to Regulator:
  Max - Bottle Pressure, Min - 30 psig (206.7 kPa)
- Gas Supply Pressure Regulator Out:20psig (137.8 kPa)

WIRING DIAGRAM

CONNECTION DIAGRAM



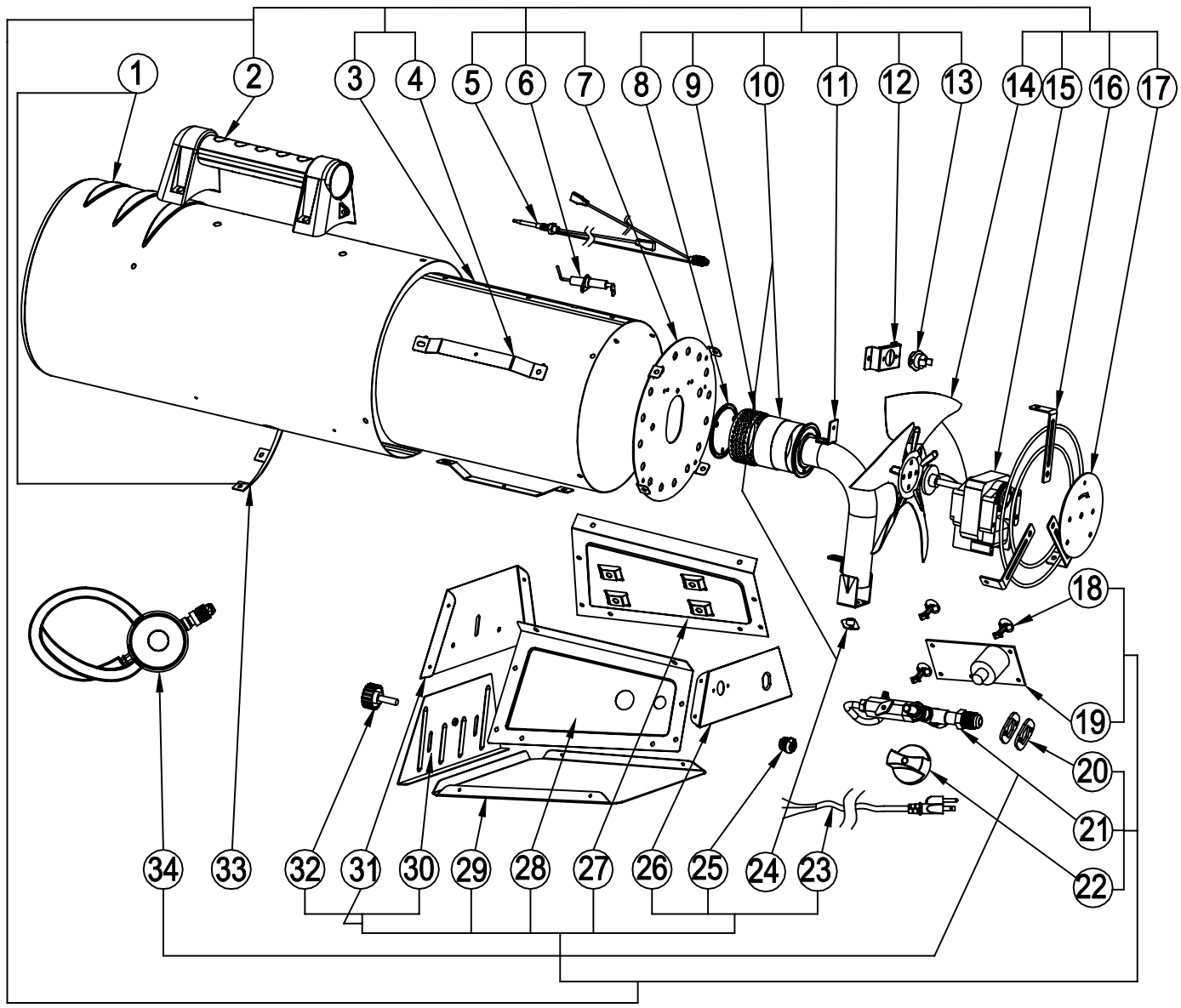
SCHEMATIC DIAGRAM

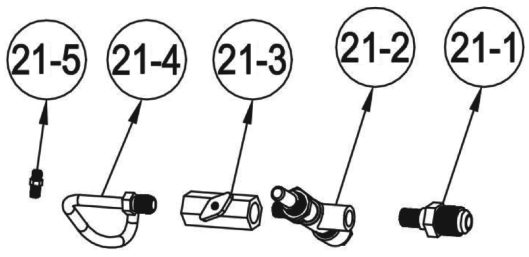


COLOR CODE				LEGEND
B	BLACK	R	RED	FEMALE CONN
		Y	YEL	RING CONN
W	WHITE	O	ORG	
G	GREEN			

If any original wiring as supplied with the heater must be replaced, it must be replaced with type AWG 105ºC wire or it's equivalent expet as indicated ('Type SF2-200. "SCI-250ºC)

HEATER DIAGRAM





⚠ CAUTION:

Heater may vary from illustration.

The diagram shows a breakdown of the entire unit. Some parts may not be serviceable or replaced.

Use only original replacement parts. This heater must use design-specific parts. Do not substitute or use generic parts. Improper replacement parts could cause serious or fatal injuries. This will also protect your warranty coverage for parts replaced under warranty.

PARTS LIST

⚠ CAUTION:

This list contains all parts shown on the heater diagram on page 10. The diagram shows a breakdown of the entire unit. Some parts may not be serviceable or replaced. Heater may vary from illustration.

Use only original replacement parts. This heater must use design-specific parts. Do not substitute or use generic parts. Improper replacement parts could cause serious or fatal injuries. This will also protect your warranty coverage for parts replaced under warranty.

No.	Description	Qty.
1	Outer Casing	1
2	Handle	1
3	Inner Shell	1
4	Insulation Shell Support	4
5	Thermocouple	1
6	Ignition Needle	1
7	Burner Disc	1
8	Before Burning Baffle	1
9	Burner Outside Network	1
10	Burner Inner Network	2
11	Air Inlet Pipe Assembly	1
12	Safety Thermostat Bracket	1
13	Reset Thermostat	1

No.	Description	Qty.
14	Fan	1
15	Motor	1
16	Air Inlet Grill	1
17	Fixing Plate	1
18	PCB Isolation Column	3
19	Power PCB	1
20	Fixing Plate For Gas Inlet Connector Nut	2
21	Control Valve Assembly	1
21-1	Gas Inlet Connector	1
21-2	Gas Escape Valve	1
21-3	Ball Valve	1
21-4	Gas Pipe	1
21-5	Gas Nozzle	1

No.	Description	Qty.
22	Knob	1
23	Cord Power Supply	1
24	Nozzle Stents	1
25	Cable Fastener	1
26	Back Plate	1
27	Left Plate	1
28	Right Plate	1
29	Lower Plate	1
30	Height Controller	1
31	Front Plate	1
32	Pinching Screw	1
33	Bottom Stop Plate	1
34	Hose/Regulator Assembly	1

Any modification to the product or failure to follow recommended care will void the product warranty.

CUSTOMER SUPPORT:

Thank you for ordering our product.Should you have any questions,please feel free to contact us at (888)680-2849 or email to inquiry@bilthardusa.com. We always find ways to improve!