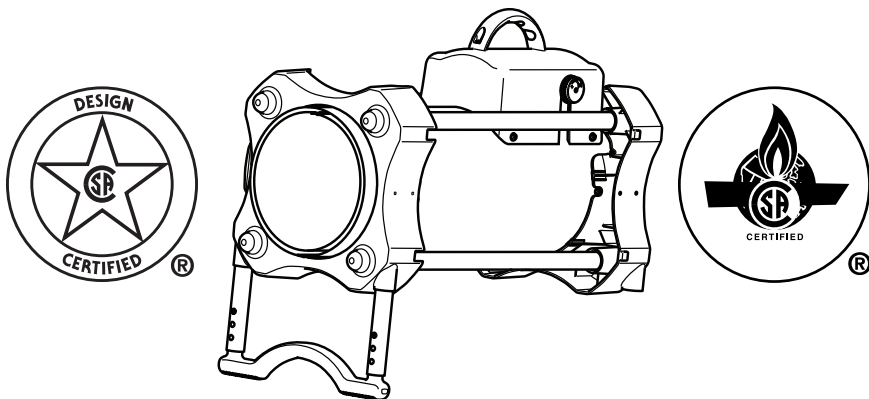


# **DESA**<sup>TM</sup>

**HEATING PRODUCTS**

## **PROPANE/LP CONSTRUCTION FORCED AIR HEATER OWNER'S MANUAL**



**55,000 BTU MODELS TB100, TB104, TB106, TB110, TB122**  
**85,000 BTU MODELS TB102, TB111, TB114**  
**125,000 BTU TB101, TB105, TB107, TB112**  
**170,000 BTU TB103, TB108, TB113**

**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 fire, explosion, burn, asphyxiation, carbon monoxide poisoning and/or electrical shock.

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

If you need assistance or heater information such as an instructions manual, labels, etc. Contact the manufacturer.

Save this manual for future reference.  
For more information, visit [www.desatech.com](http://www.desatech.com)

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## SAFETY

**⚠ WARNING: This product contains and/or generates chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.**

**⚠ 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 and approved for use as a construction heater under ANSI Z83.7-CGA 2.14-2000 Construction Heater. The 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 our heaters. **Check with your local fire safety authority if you have questions about heater use.**

Other standards govern the use of fuel gases and heat producing products for specific uses. Your local authorities can advise you about these.

**Carbon Monoxide Poisoning:** Some people are more affected by carbon monoxide than others. Early signs of carbon monoxide poisoning resemble the flu, with headaches, dizziness and/or nausea. If you have these signs, the heater may not be working properly. **Get fresh air at once!** Have heater serviced.

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

Make certain you read and understand all warnings. Keep this manual for reference. It is your guide to safe and proper operation of this heater.

1. Install and use 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 *Natural Gas and Propane Installation Code CSA B149.1*. This instructs on the safe storage and handling of propane gases.
2. Use only the electrical voltage and frequency specified on model plate. The electrical connections and grounding of the heater shall follow the *National Electric Code, ANSI/NFPA 70* or the *Canadian Electric Code, Part 1*.
3. Electrical grounding instructions - This appliance is equipped with a three-prong (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle or extension cord.
4. This product has been approved for use in the Commonwealth of Massachusetts.
5. For indoor use only. Provide adequate ventilation.

# SAFETY

## Continued

- Keep heater away from strong drafts, wind, water spray, rain or dripping water.
- Use only in well-vented areas. Before using heater, provide at least a three-square-foot opening of fresh, outside air for each 100,000 Btu/Hr (105,500 kJ) of rating.
- Do not use heater outdoors or in occupied dwellings.
- Do not use heater in living or sleeping quarters.
- Keep appliance area clear and free from combustible materials, gasoline, paint thinner and other flammable vapors and liquids. Dust is combustible. Do not use heater in areas with high dust content.
- If this heater is equipped with a thermostat. Heater may start at anytime.
- Check heater for damage before each use. Do not use a damaged heater.
- Use only propane/LP gas set up for vapor withdrawal.
- Keep propane tank(s) below 100° F (38° C).
- Do not use heater in a basement or below ground level. Propane/LP gas is heavier than air. If a leak occurs, propane/LP gas will sink to the lowest possible level.
- Use only the hose and factory regulator provided with the heater.
- Check hose before each use of heater. If highly worn or cut, replace with hose specified by manufacturer before using heater.
- Do not alter heater. Keep heater in its original state.
- Do not use heater if altered.
- Keep heater at least 6 feet (1.8 m) from propane/LP tank(s). Do not point heater at propane/LP tank(s) within 20 feet (6.1 m).
- Minimum heater clearances from combustibles: Outlet: 8 Ft. (2.4 m), Sides: 2 Ft. (0.6 m), Top: 6 Ft. (1.8 m), Rear: 2 Ft. (0.6 m).
- Locate heater on stable and level surface if heater is hot or running.
- Keep children and animals away from heater.
- Turn off propane/LP supply and unplug heater when not in use.
- Never block air inlet (rear) or hot air outlet (front) of heater.
- Never move, handle or service a hot, operating or plugged in heater.
- Never attach duct work to front or rear of heater.
- 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.
- Do not use this product without leg and foot assembly.

## PRODUCT IDENTIFICATION

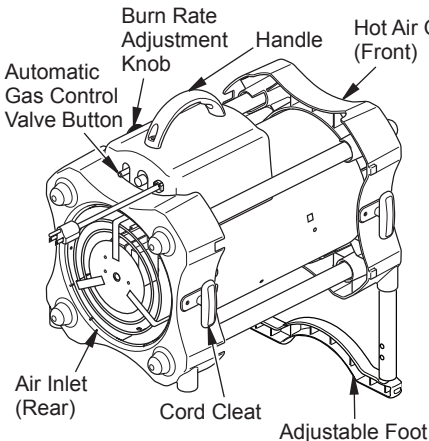


Figure 1 - 55/85/125,000 Btu/Hr Models

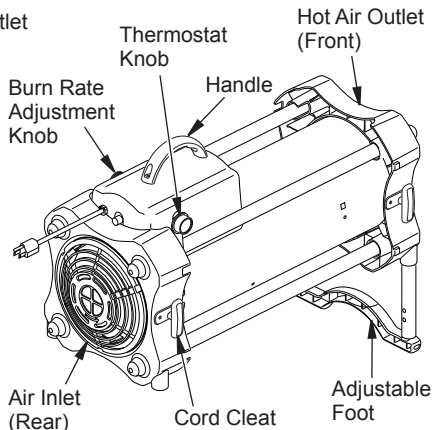


Figure 2 - 170,000 Btu/Hr Models

## UNPACKING

1. Remove all packing items applied to heater for shipment. Keep plastic cover cap (attached to heater inlet connector and hose/regulator assembly) for storage.
2. Remove all items from carton.
3. Check all items for shipping damage. If heater is damaged, promptly inform dealer where you bought heater.

## ASSEMBLY

**IMPORTANT:** Do not use this product without leg and foot assembly.

### Handle

Attach handle to control box with 2 screws (long) as shown in Figure 3.

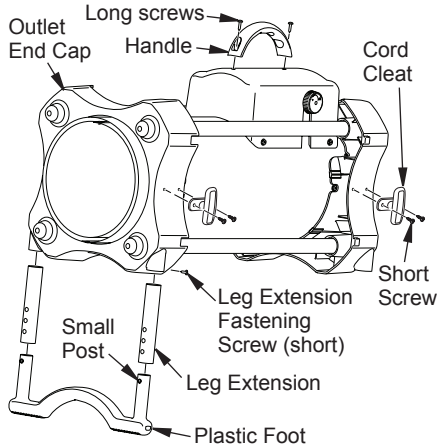
### Plastic Foot and Leg Extensions

1. Insert leg extensions into outlet end cap until small hole lines up with larger hole, visible from inside of outlet end cap (see Figure 3). Fasten leg extensions with provided screws (short).
2. Insert plastic foot ends into each leg extension and set heater to desired angle.

Small post screws on plastic foot will snap into holes in leg extensions.

### Cord Cleats

Install cord cleats on side of end caps as shown in Figure 3 with screws provided (short).



**Figure 3 - Handle and Foot Assembly**

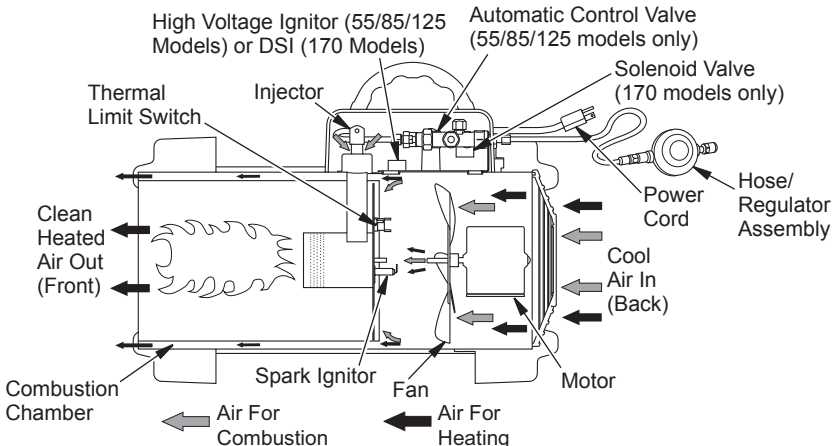
## THEORY OF OPERATION

**The Fuel System:** The hose/regulator assembly attaches to the propane gas supply. For 55/85/125 models, the propane gas moves through the automatic control valve, burn rate adjustment valve and out the injector. For 170 models, the propane gas moves through the solenoid valve, burn rate adjustment valve and out the injector.

**The Air System:** The motor turns the fan. The fan pushes air into and around the combustion chamber. This air is heated and provides a stream of clean, hot air.

**The Ignition System:** For 55/85/125 models the high voltage ignitor sends voltage to the spark ignitor. For 170 models direct spark ignitor sends voltage to the spark ignitor. The spark ignitor ignites the fuel and air mixture.

**The Safety Control System:** This system causes the heater to shut down if the flame goes out. The motor will continue to run, but no heat is produced.



**Figure 4 - Cross Section Operational View**

## PROPANE SUPPLY

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

Use this heater only with a propane/LP vapor withdrawal supply system. See Chapter 5 of the *Standard for Storage and Handling of Liquefied Petroleum Gas, ANSI/NFPA 58* and the *Natural Gas and Propane Installation Code CSA B149.1*. Your local library or fire department will have these booklets.

The amount of propane/LP gas ready for use from propane/LP tanks varies. Two factors decide this amount:

1. The amount of propane gas in tank(s)
2. The temperature of tank(s)

The chart below shows the number of 100 lb (45 kg) tanks needed to run this heater.

Temperature at tank location	Number of tanks Models		
	55	85	125/170
above 20° F (-7° C)	1	1	2
20° F (-7° C) to -0 (-18° C)	1	2	3

Less gas is vaporized at lower temperatures. You may need a larger tank in colder weather. Your local propane/LP gas dealer will help you select the proper supply system.

## 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 three square feet for each 100,000 Btu/Hr (105,500 k/j) rating. Provide extra fresh air if more heaters are being used.

## INSTALLATION

**WARNING:** Review and understand the warnings in the Safety section, page 2. They are needed to safely operate this heater. Follow all local codes when using this heater.

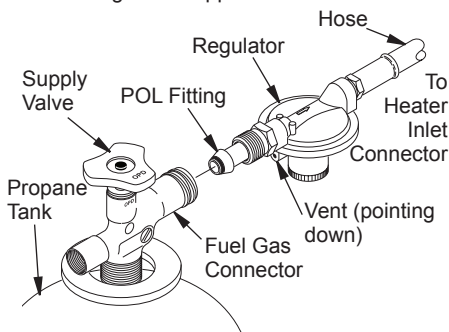
**WARNING:** Test all gas piping and connections for leaks after installing or servicing. Never use an open flame to check for a leak. Apply a mixture of liquid soap and water to all joints. Bubbles forming show a leak. Correct all leaks at once.

1. Provide propane/LP supply system (see Propane/LP Supply).
2. Connect POL fitting on hose/regulator assembly to propane/LP tank(s). Turn POL fitting counterclockwise into threads on tank. Tighten firmly using a wrench.

**IMPORTANT:** Tighten regulator with vent pointing down. Pointing vent down protects regulator from weather damage.

3. Connect hose to inlet connector of heater. Tighten firmly using a wrench.

**IMPORTANT:** Extra hose or piping may be used if needed. Install extra hose or piping between propane/LP tank and regulator. You must ensure a minimum of 25 psig at the inlet of the regulator. You must use the regulator supplied with the heater.

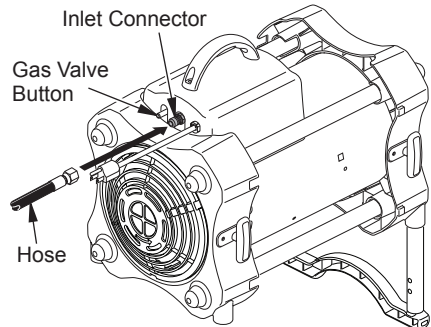


**Figure 5 - Regulator With Vent Pointing Down**

# INSTALLATION

## Continued

4. Open propane/LP supply valve on propane/LP tank(s) slowly. *Note: If not opened slowly, excess-flow check valve on propane/LP tank will activate and significantly reduce gas flow. If this happens, you may hear a click inside the regulator assembly and/or notice the heater burning at a very low heat output. You will not be able to increase heat output when you adjust heat setting knob. Do not run heater in this condition. To reset the excess flow check valve, close propane/LP supply valve and open again slowly.*
5. Check all connections for leaks.
6. Close propane/LP supply valve.



**Figure 6 - Hose and Inlet Connector (Heater may vary from illustration)**

## OPERATION

**WARNING:** Review and understand the warnings in the Safety section, page 2. They are needed to safely operate this heater. Follow all local codes when using this heater.

### TO START HEATER

1. Follow all installation, ventilation and safety information.
2. Locate heater on stable and level surface. Make sure strong drafts do not blow into front or rear of heater.
3. Plug power cord of heater into a three-prong, grounded extension cord. Extension cord must be at least six feet long. Extension cord must be UL listed.

#### Extension Cord Size Requirement

Up to 50 feet (15 m) long, use 18 AWG rated cord.

51 to 100 feet (15.5 to 30.5 m) long, use 16 AWG rated cord.

101 to 200 feet (30.78 to 61 m) long, use 14 AWG rated cord.

4. Plug extension cord into a 120 volt/60 hertz, three-hole, grounded outlet.
5. Open propane/LP supply valve on propane/LP tank(s) slowly. *Note: If not opened slowly, excess-flow check valve on propane/LP tank will activate and significantly reduce gas flow. If this happens, you may hear a click inside the regulator assembly and/or notice the heater burning at a very low heat output. You will not be*

*able to increase heat output when you adjust heat setting knob. Do not run heater in this condition. To reset the excess flow check valve, close propane/LP supply valve and open again slowly.*

6. Adjust variable Btu control knob fully clockwise to LO.

#### 55, 85, 125 Models Only

7. Press and hold in gas valve button. Heater should ignite within a few seconds.

*Note: If heater fails to ignite, hose may have air in it. If so, keep gas valve button pressed and wait 20 seconds. Release gas valve button and wait 20 seconds for unburned fuel to exit heater. Repeat step 6.*

8. After heater ignites, wait 30 seconds. This activates the automatic control system. Release the gas control valve button.

#### 170 Models Only

9. Adjust thermostat to desired setting. If heater does not start, thermostat setting may be too low. Turn thermostat knob to higher position to start heater.

*Note: If heater does not start, unplug heater. Wait ten seconds for safety control to reset, plug in heater, then try again.*

#### All Models

10. When burner remains lit, set heater to the desired heat level by turning the variable Btu control knob counterclockwise. If burner goes out, turn off gas. Turn variable Btu control knob fully clockwise to the lowest position. Check fuel supply. If adequate fuel is available, restart heater beginning at step 1.

## OPERATION

### Continued

#### TO STOP HEATER

1. Tightly close propane/LP supply valve on propane tank(s).
2. Wait a few seconds. Heater will burn gas left in supply hoses.
3. Unplug heater.

#### TO RESTART HEATER

If safety control stops gas flow to heater, motor will continue to run.

1. Unplug heater.
2. Wait ten seconds. Plug heater in.

If heater does not restart

- A. Check supply valves (on propane/LP tank). Make sure they are open.
- B. Check fuel level in propane/LP tank(s). If fuel level is too low, contact local propane/LP gas company.

If heater still does not restart, contact your local service center.


## STORAGE

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

1. Store propane/LP tank(s) in safe manner. See chapter 5 of *Standard for Storage and Handling of Liquefied Petroleum Gases, ANSI/NFPA 58* and the *Natural Gas and Propane Installation Code CSA B149.1*. Follow all local codes.

2. Place plastic cover caps over brass fittings on inlet connector of heater and hose/regulator assembly.
3. Store in dry, clean and safe place. Do not store hose/regulator assembly inside heater combustion chamber.
4. When taking heater out of storage, always check inside of heater. Insects and small animals may place foreign objects in heater. Keep inside of heater free from combustible and foreign objects.

## MAINTENANCE

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

1. Keep heater clean. Clean heater annually or as needed to remove dust and debris. If heater is dirty or dusty, clean heater with a damp cloth.

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 hose/regulator assembly before each use. If hose is highly worn or cut, replace.
4. Have heater inspected yearly by a qualified service agency.
5. Keep inside of heater free from combustible and foreign objects.



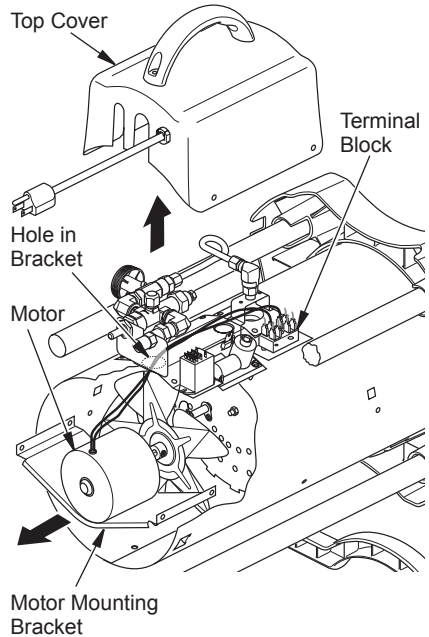
## SERVICE PROCEDURES

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

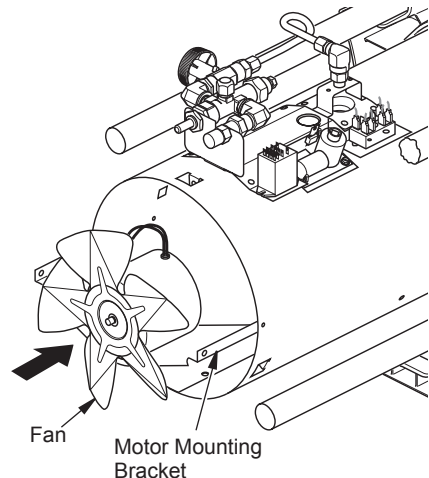
### CLEANING FAN

Clean fan every 500 hours of operation or as needed.

1. Remove screws on top cover using 5/16" nut-driver or Phillips head screw driver.
2. Remove top cover.
3. Detach the 2 black motor wires from terminal block under top cover. Be sure to detach only wires coming from motor.
4. Remove fan guard from rear of heater. Fan guard will snap out of shell.
5. Reach into rear of heater shell. Carefully pull motor wires through hole in bracket. *Note: Pull wires through hole one at a time.*
6. Remove screws holding motor mount to shell. Use 5/16" nut driver or Phillips head screw driver.
7. Carefully pull motor and fan out of shell. **IMPORTANT:** Be careful not to damage fan. Do not set motor and fan down with the weight resting on fan. This could damage fan pitch.
8. Turn motor and fan around. Place motor and fan into shell backwards. *Note: Motor will go into shell first (see Figure 8).*
9. Line up rear mounting holes in shell with first hole on each side of motor mount (see Figure 8). *Note: When holes are lined up, fan should be outside of shell.*
10. Holding mounting screws, carefully reach through fan blades into rear of heater. Be careful not to damage fan pitch. Insert screw through motor mount and shell. With free hand, attach screw finger tight. Repeat process for other mounting hole.
11. Use 1/8" hex wrench to loosen setscrew which holds fan to motor shaft (see Figure 9, page 9).
12. Slip fan off motor shaft.
13. Clean fan using soft cloth moistened with a cleaning solvent.



**Figure 7 - Removing Fan and Motor**



**Figure 8 - Fan and Motor Reversed for Cleaning**

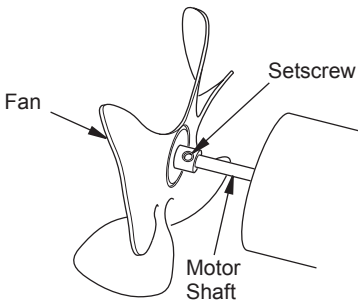


# SERVICE PROCEDURES

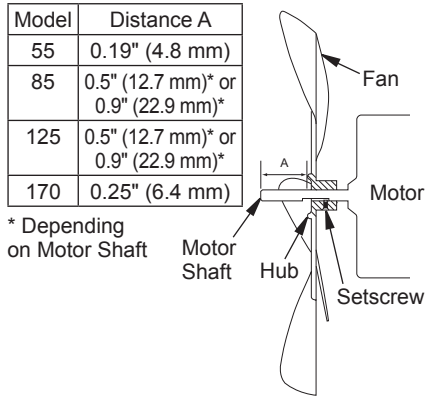
*Continued*

14. Dry fan thoroughly.
15. Replace fan on motor shaft. Place setscrew on flat of shaft. See chart in Figure 10 for distance of fan hub from end of motor shaft. Tighten setscrew firmly (40-50 inch-pounds).
16. Remove screws securing motor mount to shell.
17. Pull motor and fan from shell. Turn motor and fan around. Carefully place back in shell. *Note: Fan will go into shell first.*

18. Line up mounting holes in shell with holes on motor mount. Replace 4 screws through shell and motor mount.
19. Route motor wires through hole in top of shell (see Figure 7, page 8).
20. Reconnect motor wires to the same posts on terminal block as removed in step 3, page 8 (see Figure 7, page 8).
21. Replace top cover.
22. Replace fan guard.



**Figure 9 - Fan, Motor Shaft and Setscrew Identification**



**Figure 10 - Fan Cross Section**

## SPECIFICATIONS

### All Models

- Propane/LP Gas
- Gas Supply Pressure to Regulator:  
Max - Bottle Pressure, Min - 25 psig (172.4 kPa)
- Gas Supply Pressure Regulator Out:  
20 psig (137.9 kPa)
- Electrical Input: 120V, 60 Hz, 1Ø, 3a
- Direct Spark Ignition
- Minimum Ambient Temp. Rating:  
0° F (-17.8° C)

### 55,000 Btu/Hr Models

- 30 - 55,000 Btu/Hr (8.8 - 16.1 kW)
- Fuel Consumption:  
1.4 - 2.6 pounds/hr (0.70 - 1.28 kg/hr)
- Primary Flame Control:  
Thermocouple operated gas valve
- Heated Air Output: 300 CFM (8.49 m<sup>3</sup>/min)

### 85,000 Btu/Hr Models

- 50 - 85,000 Btu/Hr (14.6 - 25.0 kW)
- Fuel Consumption:  
2.3 - 3.9 pounds/hr (1.04 - 1.77 kg/hr)
- Primary Flame Control:  
Thermocouple operated gas valve
- Heated Air Output: 350 CFM (9.91 m<sup>3</sup>/min)

### 125,000 Btu/Hr Models

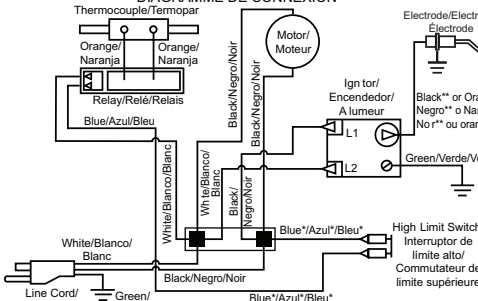
- 75 - 125,000 Btu/Hr (21.9 - 36.6 kW)
- Fuel Consumption:  
3.5 - 5.8 pounds/hr (1.59 - 2.63 kg/hr)
- Primary Flame Control:  
Thermocouple operated gas valve
- Heated Air Output: 350 CFM (9.91 m<sup>3</sup>/min)

### 170,000 Btu/Hr Models

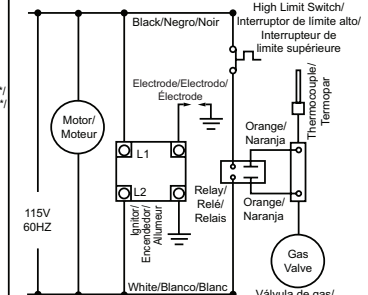
- 125 - 170,000 Btu/Hr (36.6 - 49.8 kW)
- Fuel Consumption:  
5.8 - 7.9 pounds/hr (2.63 - 3.6 kg/hr)
- Primary Flame Control:  
DSI Flame Rectification
- Heated Air Output: 450 CFM (12.74 m<sup>3</sup>/min)

# WIRING DIAGRAMS

CONNECTION DIAGRAM/DIAGRAMA DE CONEXIONES/  
DIAGRAMME DE CONNEXION



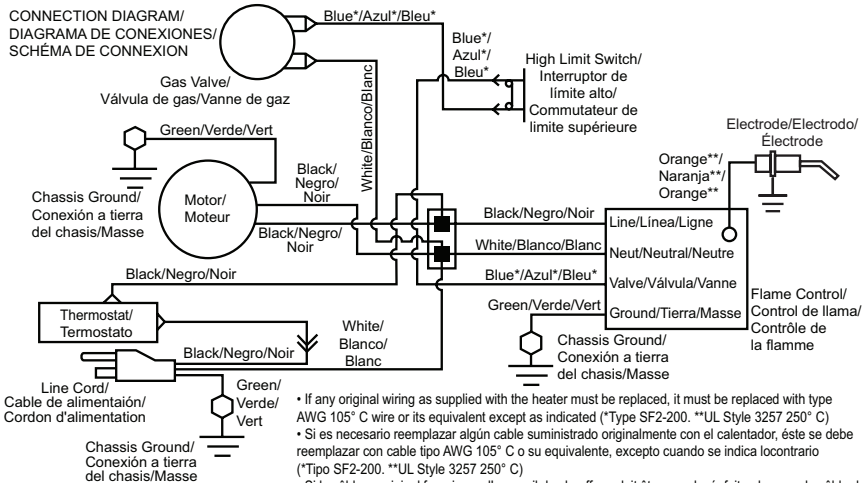
SCHEMATIC DIAGRAM/DIAGRAMA ESQUEMATICO/  
DIAGRAMME DE CIRCUIT



- If any original wiring as supplied with the heater must be replaced, it must be replaced with type AWG 105° C wire or its equivalent except as indicated (\*Type SF2 200 \*\*UL Style 3257 250° C)
- Si es necesario reemplazar algún cable suministrado originalmente con el calentador, éste se debe reemplazar con cable tipo AWG 105° C o su equivalente, excepto cuando se indica lo contrario (\*Tipo SF2 200 \*\*UL Style 3257 250° C)
- \* Si le câblage fourni avec l'appareil de chauffage doit être remplacé, faites le avec du câble de type AWG 105° C ou son équivalent, sauf indication contraire (\*Type SF2 200 \*\*UL Style 3257 250° C)

## 55,000, 85,000 and 125,000 Btu/Hr Models

CONNECTION DIAGRAM/  
DIAGRAMA DE CONEXIONES/  
SCHEMA DE CONNEXION



- If any original wiring as supplied with the heater must be replaced, it must be replaced with type AWG 105° C wire or its equivalent except as indicated (\*Type SF2-200. \*\*UL Style 3257 250° C)
- Si es necesario reemplazar algún cable suministrado originalmente con el calentador, éste se debe reemplazar con cable tipo AWG 105° C o su equivalente, excepto cuando se indica lo contrario (\*Tipo SF2-200. \*\*UL Style 3257 250° C)
- Si le câblage original fourni avec l'appareil de chauffage doit être remplacé, faites-le avec du câble de type AWG 105° C ou son équivalent, sauf indication contraire (\*Type SF2-200. \*\*UL Style 3257 250° C)

## 170,000 Btu/Hr Models

## REPLACEMENT PARTS

*Note: Use only original replacement parts. This will protect your warranty coverage for parts replaced under warranty.*

### PARTS UNDER WARRANTY

Contact authorized dealers of this product. If they can't supply original replacement part(s), call DESA Heating, LLC at 1-866-672-6040.

When calling DESA Heating, LLC, have ready:

- your name
- your address
- model and serial numbers of your heater
- how heater was malfunctioning
- purchase date

Usually, we will ask you to return the part to the factory.

### PARTS NOT UNDER WARRANTY

Contact authorized dealers of this product. If they can't supply original replacement part(s), call DESA Heating, LLC at 1-866-672-6040 for referral information. A list of authorized dealers can be found by visiting [www.desatech.com](http://www.desatech.com).

When calling DESA Heating, LLC, have ready:

- model and serial numbers of your heater
- the replacement part number

## TECHNICAL SERVICE

You may have further questions about installation, operation, or troubleshooting. If so, contact DESA Heating, LLC at 1-866-672-6040. When calling please have your model and serial numbers of your heater ready.

You can also visit DESA Heating, LLC's web site at [www.desatech.com](http://www.desatech.com).

## SERVICE PUBLICATIONS

A service manual is available at [www.desatech.com](http://www.desatech.com). At any time while viewing construction heaters, click on "tech tips".

## ACCESSORY

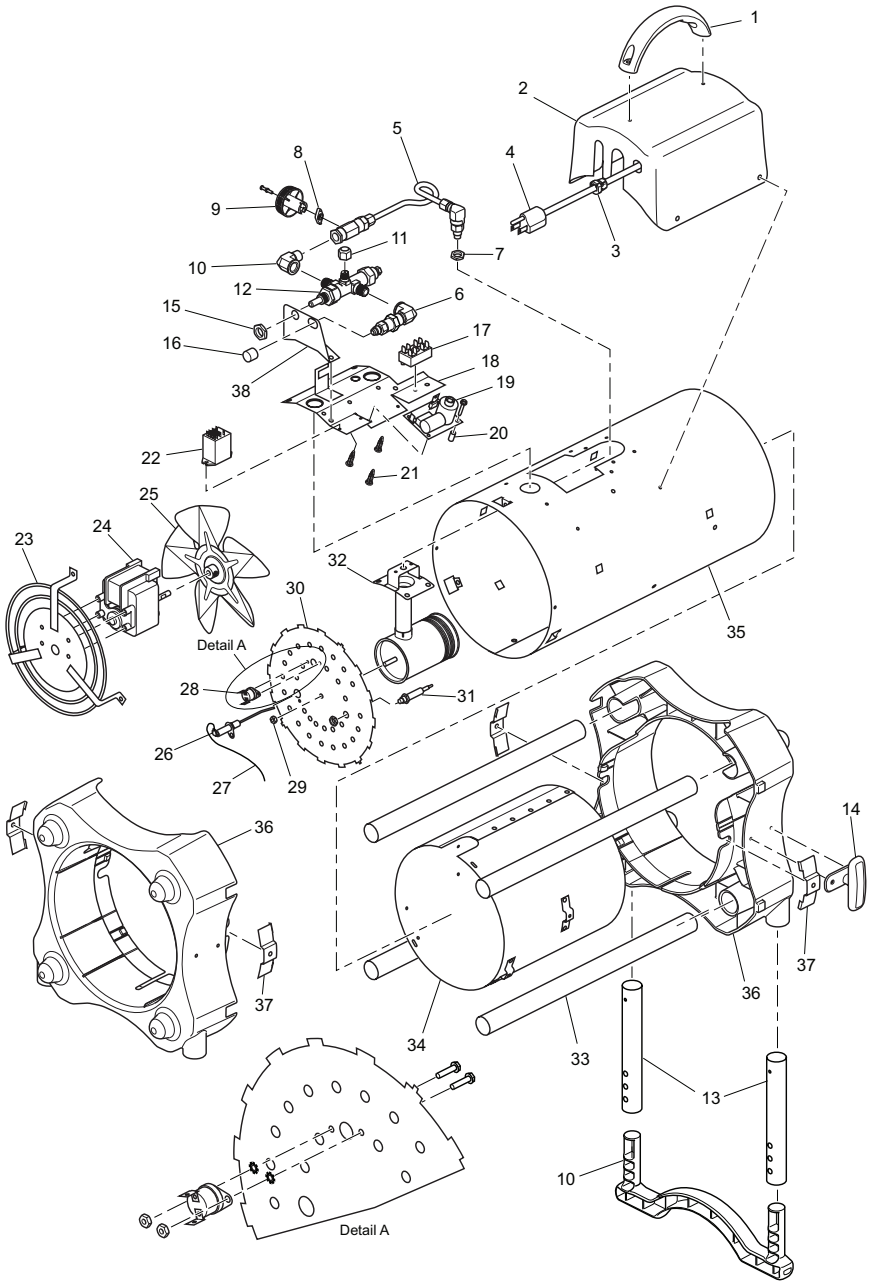
Purchase these accessories from your local dealer. If they can not supply these accessories call DESA Heating, LLC at 1-866-672-6040 for information. You can also write to the address listed on the back page of this manual.

### Fuel Gas Connector: LPA4020

A POL adapter with excess flow check valve.

# PARTS

55,000 BTU/HR MODELS TB100, TB104, TB106, TB110 AND TB122



# PARTS

## 55,000 BTU/HR MODELS

This list contains replaceable parts used in your heater. When ordering parts, follow the instructions listed under *Replacement Parts* on page 11 of this manual.

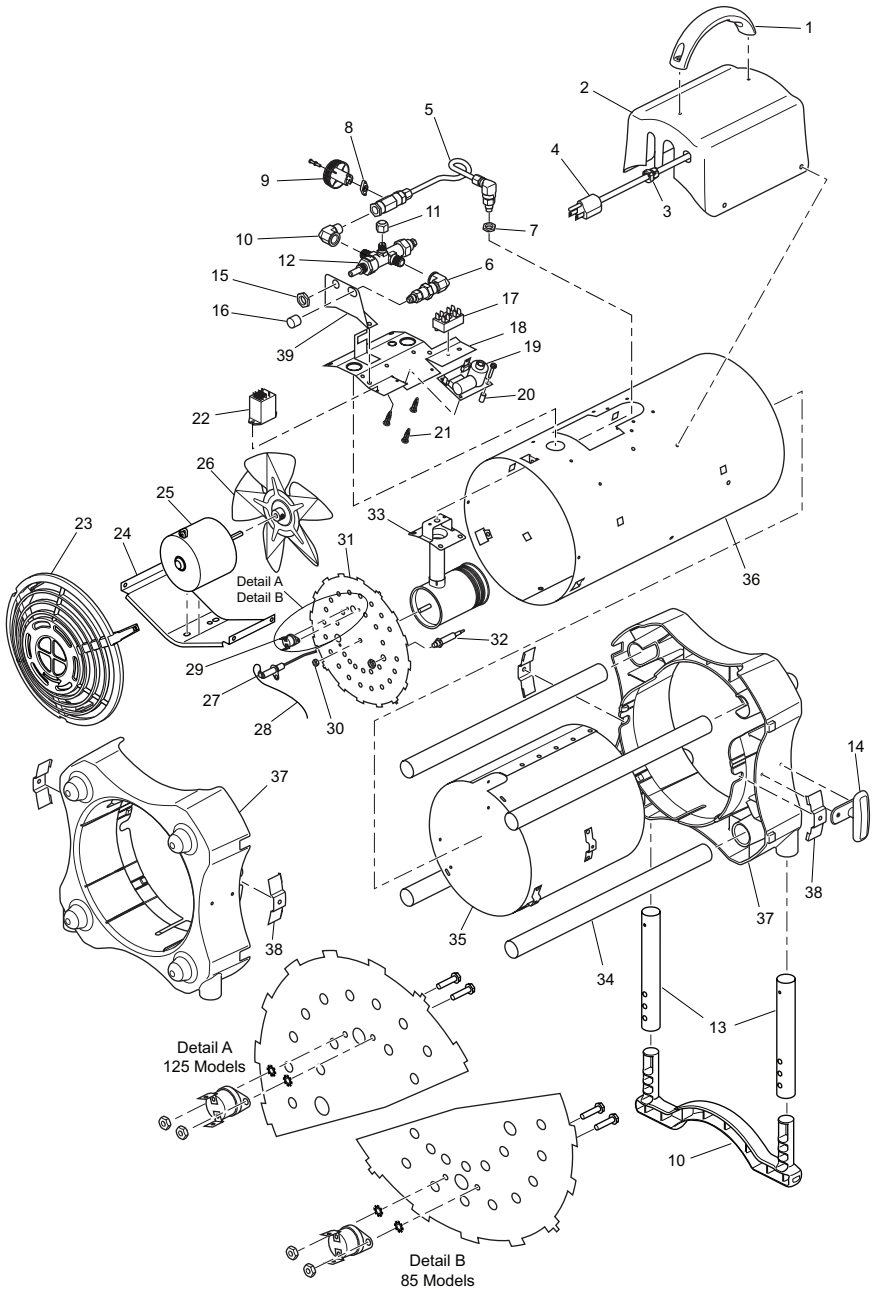
KEY NO.	PART NO.	DESCRIPTION	TB100	TB104	TB106	TB110	TB122	QTY.
1	118476-01	Handle	•	•	•	•	•	1
2	118472-01	Control Box	•	•	•	•	•	1
3	M11143-2	Strain Relief Bushing	•	•	•	•	•	1
4	098219-42	Power Supply Cord Assembly	•	•	•	•	•	1
5	121847-01	Fuel Tube Kit	•	•	•	•	•	1
6	121846-01	E bow Fitting	•	•	•	•	•	2
7	119631-01	Nut	•	•	•	•	•	1
8	113810-01	Ball Valve Knob Insert	•	•	•	•	•	1
9	118773-01	Ball Valve Knob	•	•	•	•	•	1
10	118474-01	Foot	•	•	•	•	•	1
11	116981-01	Female Cap Fitting	•	•	•	•	•	1
12	113871-01	Control Valve	•	•	•	•	•	1
13	118478-03	Foot Leg	•	•	•	•	•	2
14	118475-01	Cord Cleat	•	•	•	•	•	2
15	113794-01	Valve Nut	•	•	•	•	•	1
16	078978-03	Cap Sleeve	•	•	•	•	•	1
17	119401-01	Terminal Block	•	•	•	•	•	1
18	119933-01	Heat Shield	•	•	•	•	•	1
19	113867-01	Hi-Lo Mini Ignitor	•	•	•	•	•	1
20	114150-01	Steel Spacer	•	•	•	•	•	1
21	118802-01	Printed Circuit Board Support	•	•	•	•	•	3
22	113875-02	Relay Assembly	•	•	•	•	•	1
23	118780-01	Motor Grill Assembly	•	•	•	•	•	1
24	113880-02	Motor Assembly	•	•	•	•	•	1
25	113881-01	Fan	•	•	•	•	•	1
26	097805-04	Ignitor	•	•	•	•	•	1
27	097806-03	Ignitor Cable	•	•	•	•	•	1
28	101481-12	Thermal Limit Switch	•	•	•	•	•	1
29	098249-01	Nut	•	•	•	•	•	1
30	118497-02	Rear Plate	•	•	•	•	•	1
31	104146-05	Thermocouple	•	•	•	•	•	1
32	118514-01	Burner Assembly	•	•	•	•	•	1
33	118477-03	Steel Tube	•	•	•	•	•	4
34	119497-01	Combustion Chamber	•	•	•	•	•	1
35	**	Shell (Black)	•	•	•	•	•	1
36	118471-01	End Cap	•	•	•	•	•	2
37	119459-01	Hold Down Bracket	•	•	•	•	•	4
38	119888-03	Support Bracket	•	•	•	•	•	1
<b>PARTS AVAILABLE - NOT SHOWN</b>								
	M9900-199	Wire Assembly, Black	•	•	•	•	•	1
	M9900-200	Wire Assembly, White	•	•	•	•	•	1
	101480-14	Wire Assembly, Blue	•	•	•	•	•	1
	118774-04	Hose and Regulator Assembly	•	•	•	•	•	1
	118687-01	Operation Decal	•	•	•	•	•	1
	118687-03	Operation Decal	•	•	•	•	•	1
	119144-01	Model Data Decal	•	•	•	•	•	1
	119146-01	Wiring Decal	•	•	•	•	•	1
	119148-01	Warning Hang Tag	•	•	•	•	•	1

\*\* Not a field replaceable part.

# PARTS

85,000 BTU/HR MODELS TB102, TB111 AND TB114

125,000 BTU/HR MODELS TB101, TB105, TB107 AND TB112



## PARTS

### 85,000 AND 125,000 BTU/HR MODELS

This list contains replaceable parts used in your heater. When ordering parts, follow the instructions listed under Replacement Parts on page 11 of this manual.

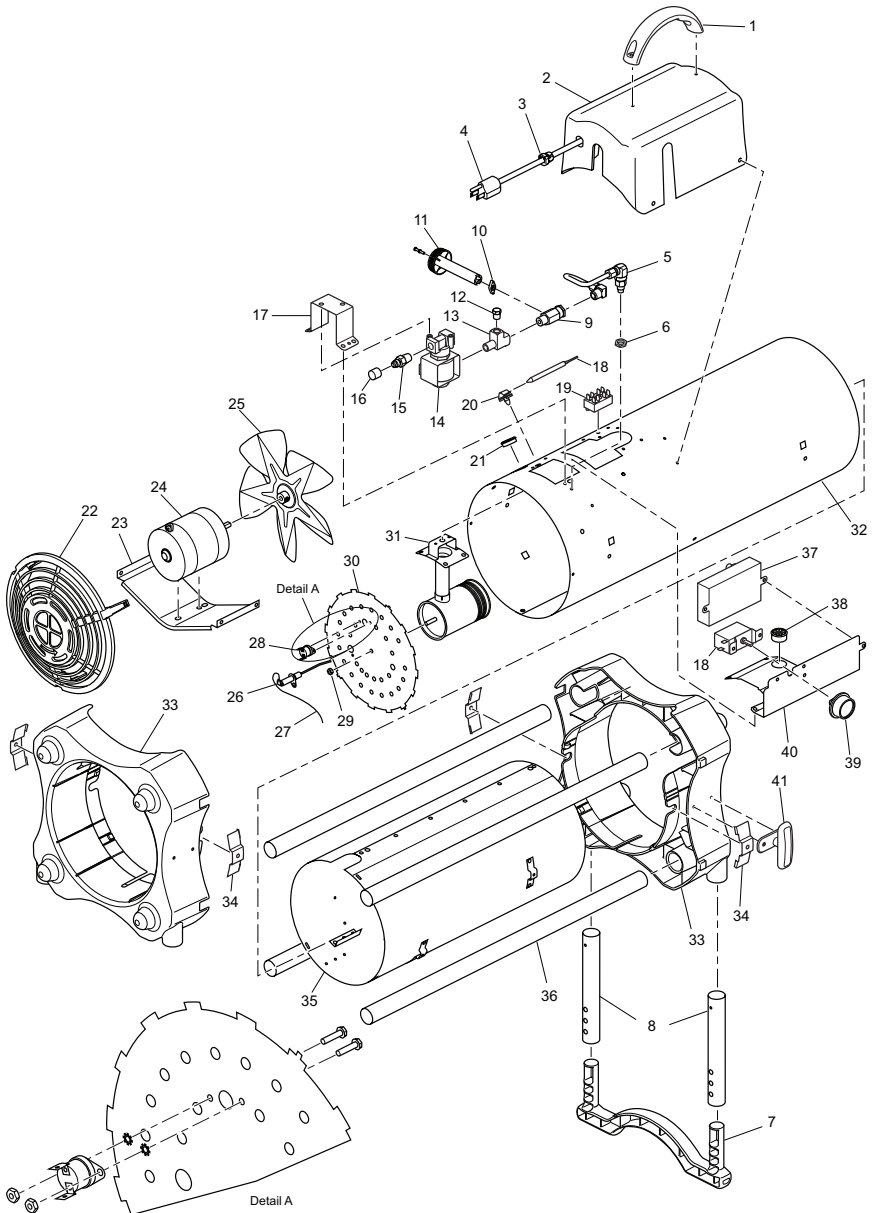
KEY NO.	PART NO.	DESCRIPTION	TB102	TB111	TB114	TB101	TB105	TB107	TB112	QTY.
1	118476-01	Handle	•	•	•	•	•	•	•	1
2	118472-01	Control Box	•	•	•	•	•	•	•	1
3	M11143-2	Strain Relief Bushing	•	•	•	•	•	•	•	1
4	098219-42	Power Supply Cord Assembly	•	•	•	•	•	•	•	1
5	121847-02	Fuel Tube Kit	•	•	•	•	•	•	•	1
	121847-03	Fuel Tube Kit	•	•	•	•	•	•	•	1
6	121846-01	Elbow Fitting	•	•	•	•	•	•	•	1
7	119631-01	Nut	•	•	•	•	•	•	•	1
8	113810-01	Ball Valve Knob Insert	•	•	•	•	•	•	•	1
9	118773-01	Ball Valve Knob	•	•	•	•	•	•	•	1
10	118474-01	Foot	•	•	•	•	•	•	•	1
11	116981-01	Female Cap Fitting	•	•	•	•	•	•	•	1
12	113871-01	Control Valve	•	•	•	•	•	•	•	1
13	118478-01	Foot Leg	•	•	•	•	•	•	•	2
14	118475-01	Cord Cleat	•	•	•	•	•	•	•	2
15	113794-01	Valve Nut	•	•	•	•	•	•	•	1
16	078978-03	Sleeve Cap	•	•	•	•	•	•	•	1
17	119401-01	Terminal Block	•	•	•	•	•	•	•	1
18	119933-01	Heat Shield	•	•	•	•	•	•	•	1
19	113867-01	Hi-Lo Mini Ignitor	•	•	•	•	•	•	•	1
20	114150-01	Steel Spacer	•	•	•	•	•	•	•	1
21	118802-01	Printed Circuit Board Support	•	•	•	•	•	•	•	3
22	113875-02	Relay Assembly	•	•	•	•	•	•	•	1
23	118473-01	Fan Guard	•	•	•	•	•	•	•	1
24	118482-01	Motor Mount	•	•	•	•	•	•	•	1
25	113860-02	Motor Assembly	•	•	•	•	•	•	•	1
26	113881-01	Fan 7"	•	•	•	•	•	•	•	1
	114160-01	Fan 8"	•	•	•	•	•	•	•	1
27	097805-03	Ignitor	•	•	•	•	•	•	•	1
	097805-04	Ignitor	•	•	•	•	•	•	•	1
28	097806-03	Ignitor Cable	•	•	•	•	•	•	•	1
29	101481-04	Thermal Limit Switch	•	•	•	•	•	•	•	1
	101481-13	Thermal Limit Switch	•	•	•	•	•	•	•	1
30	098249-01	Nut	•	•	•	•	•	•	•	1
31	118497-01	Rear Plate	•	•	•	•	•	•	•	1
	118497-03	Rear Plate	•	•	•	•	•	•	•	1
32	104146-05	Thermocouple	•	•	•	•	•	•	•	1
33	118514-01	Burner Assembly	•	•	•	•	•	•	•	1
	118765-02	Burner Assembly	•	•	•	•	•	•	•	1
34	118477-01	Steel Tube	•	•	•	•	•	•	•	4
35	119497-02	Combustion Chamber	•	•	•	•	•	•	•	1
36	**	Shell (Black)	•	•	•	•	•	•	•	1
37	118471-01	End Cap	•	•	•	•	•	•	•	2
38	119459-01	Hold Down Bracket	•	•	•	•	•	•	•	4
39	119888-03	Support Bracket	•	•	•	•	•	•	•	1
<b>PARTS AVAILABLE - NOT SHOWN</b>										
	M9900-199	Wire Assembly, Black	•	•	•	•	•	•	•	1
	M9900-200	Wire Assembly, White	•	•	•	•	•	•	•	1
	101480-14	Wire Assembly, Blue	•	•	•	•	•	•	•	1
	118774-01	Hose and Regulator Assembly	•	•	•	•	•	•	•	1
	118774-02	Hose and Regulator Assembly	•	•	•	•	•	•	•	1
	118687-01	Operation Decal	•	•	•	•	•	•	•	1
	118687-03	Operation Decal	•	•	•	•	•	•	•	1
	119144-02	Model Data Decal	•	•	•	•	•	•	•	1
	119144-03	Model Data Decal	•	•	•	•	•	•	•	1
	119146-01	Wiring Decal	•	•	•	•	•	•	•	1
	119148-01	Warning Hang Tag	•	•	•	•	•	•	•	1

\*\* Not a field replaceable part.



# PARTS

170,000 BTU/HR MODELS TB103, TB108 AND TB113



## PARTS

### 170,000 BTU/HR MODELS

This list contains replaceable parts used in your heater. When ordering parts, follow the instructions listed under Replacement Parts on page 11 of this manual.

KEY NO.	PART NO.	DESCRIPTION	TB103	TB108	TB113	QTY.
1	118476-01	Handle	•	•	•	1
2	118770-01	Control Box	•	•	•	1
3	M11143-2	Strain Relief Bushing	•	•	•	1
4	098219-42	Power Supply Cord Assembly	•	•	•	1
5	121847-04	Fuel Tube Kit	•	•	•	1
6	119631-01	Nut	•	•	•	1
7	118474-01	Foot	•	•	•	1
8	118478-02	Foot Leg	•	•	•	2
9	114159-04	Ball Valve Assembly	•	•	•	1
10	113810-01	Ball Valve Knob Insert	•	•	•	1
11	118773-02	Ball Valve Knob	•	•	•	1
12	098276-01	Plug	•	•	•	1
13	118768-01	Street Tee	•	•	•	1
14	098201-01	Solenoid Valve Kit	•	•	•	1
15	097809-04	Male Fitting	•	•	•	1
16	078978-03	Sleeve Cap	•	•	•	1
17	118766-01	Solenoid Valve Bracket	•	•	•	1
18	113944-01	Thermostat Assembly	•	•	•	1
19	119401-01	Terminal Block	•	•	•	1
20	099123-01	Thermobulb Clip	•	•	•	1
21	M50104-02	Shorty Bushing	•	•	•	1
22	118473-01	Fan Guard	•	•	•	1
23	118482-01	Motor Mount	•	•	•	1
24	113941-02	Motor Assembly	•	•	•	1
25	113950-01	Fan	•	•	•	1
26	097805-03	Ignitor	•	•	•	1
27	097806-03	Ignitor Cable	•	•	•	1
28	101481-05	Thermal Limit Switch	•	•	•	1
29	098249-01	Nut	•	•	•	1
30	118497-01	Rear Plate	•	•	•	1
31	118765-02	Burner Assembly	•	•	•	1
32	**	Shell (Black)	•	•	•	1
33	118471-01	End Cap	•	•	•	2
34	119459-01	Hold Down Bracket	•	•	•	4
35	119497-03	Combustion Chamber	•	•	•	1
36	118477-02	Steel Tube	•	•	•	4
37	110287-02	DSI Control Kit	•	•	•	1
38	097776-01	Universal Bushing	•	•	•	1
39	113961-01	Thermostat Knob	•	•	•	1
40	118919-01	Heat Shield	•	•	•	1
41	118475-01	Cord Cleat	•	•	•	2
<b>PARTS AVAILABLE - NOT SHOWN</b>						
	M16841-80	Wire Assembly, White	•	•	•	1
	M9900-170	Wire Assembly, Black	•	•	•	1
	101480-15	Wire Assembly, Blue	•	•	•	1
	118774-03	Hose and Regulator Assembly	•	•	•	1
	118687-04	Operation Decal	•	•	•	1
	119144-04	Model Data Decal	•	•	•	1
	119146-02	Wiring Decal	•	•	•	1
	099504-08	Warning Decal	•	•	•	1
	110267-02	DSI Control Harness	•	•	•	1
	119148-02	Warning Hang Tag	•	•	•	1

\*\* Not a field replaceable part.

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# WARRANTY

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## KEEP THIS WARRANTY

Model (located on product or identification tag) \_\_\_\_\_

Serial No. (located on product or identification tag) \_\_\_\_\_

Date Purchased \_\_\_\_\_

Keep receipt for warranty verification.

## DESA HEATING, LLC LIMITED WARRANTIES

### New Products

**Standard Warranty:** DESA Heating, LLC warrants this new product and any parts thereof to be free from defects in material and workmanship for a period of one (1) year from the date of first purchase from an authorized dealer provided the product has been installed, maintained and operated in accordance with DESA Heating, LLC's warnings and instructions.

For products purchased for commercial, industrial or rental usage, this warranty is limited to 90 days from the date of first purchase.

### Factory Reconditioned Products

**Limited Warranty:** DESA Heating, LLC warrants factory reconditioned products and any parts thereof to be free from defects in material and workmanship for 30 days from the date of first purchase from an authorized dealer provided the product has been installed, maintained and operated in accordance with DESA Heating, LLC's warnings and instructions.

### Terms Common to All Warranties

The following terms apply to all of the above warranties:

Always specify model number and serial number when contacting the manufacturer. To make a claim under this warranty the bill of sale or other proof of purchase must be presented.

This warranty is extended only to the original retail purchaser when purchased from an authorized dealer, and only when installed by a qualified installer in accordance with all local codes and instructions furnished with this product.

This warranty covers the cost of part(s) required to restore this product to proper operating condition and an allowance for labor when provided by a DESA Heating, LLC Authorized Service Center or a provider approved by DESA Heating, LLC. Warranty parts must be obtained through authorized dealers of this product and/or DESA Heating, LLC who will provide original factory replacement parts. Failure to use original factory replacement parts voids this warranty.

Travel, handling, transportation, diagnostic, material, labor and incidental costs associated with warranty repairs, unless expressly covered by this warranty, are not reimbursable under this warranty and are the responsibility of the owner.

Excluded from this warranty are products or parts that fail or become damaged due to misuse, accidents, improper installation, lack of proper maintenance, tampering, or alteration(s).

This is DESA Heating, LLC's exclusive warranty, and to the full extent allowed by law; this express warranty excludes any and all other warranties, express or implied, written or verbal and limits the duration of any and all implied warranties, including warranties of merchantability and fitness for a particular purpose to one (1) year on new products and 30 days on factory reconditioned products from the date of first purchase. DESA Heating, LLC makes no other warranties regarding this product.

DESA Heating, LLC's liability is limited to the purchase price of the product, and DESA Heating, LLC shall not be liable for any other damages whatsoever under any circumstances including indirect, incidental, or consequential damages.

Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

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

For information about this warranty contact:



DESA Heating, LLC  
2701 Industrial Drive  
Bowling Green, KY 42101  
www.desatech.com  
1-866-672-6040



INDUSTRIES OF CANADA, INC.  
82 Akron Road  
Toronto, Ontario M8W 1T2  
(416) 255-5333

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