OPERATING AND MAINTENANCE INSTRUCTIONS

114605-001

MODEL 1557
INFRARED CONSTRUCTION HEATER

(U.S. Patent #D319,305)

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PELSUE MODEL 1557 INFRARED CONSTRUCTION HEATER

! WARNING !

Read instructions carefully before attempting to install, operate, or service the Pelsue Construction Heater. Failure to comply with these warnings and instructions, and those on the heater, could result in personal injury, death, fire, asphyxiation and/or property damage. Retain these instructions for future reference.

The following information should be reviewed before operating this unit.

1.0 General & Safety Warnings:

1.01 This manual covers the description, operation and maintenance of Pelsue Model-1557 Infrared Construction Heater.

1.02 Only personal that can understand and follow the instructions should use or service this heater. If you need assistance or heater information such as instructions, manuals, labels, ect. please contact customer service.

1.03 This heater is specifically designed to provide a means of heating ventilated shelters or work areas. The use of this heater must require good ventilation.

1.04 **WARNING** Not for home or recreational vehicle use. Not for use in aerial Bucket trucks. For your safety do not use this heater in a space where gasoline Or other liquids having flammable vapors are stored or used.

1.05 **WARNING** Heater produces radiant infrared heat and has an open flame. Keep solid combustibles, such as building materials, paper or cardboard, a safe distance away from the heater as recommended. Never use the heater I spaces which do or may contain volatile or airborne combustibles, dust particles, paint, paint thinner, solvents or unknown chemicals.

2.0 Specifications:

Length:	13.00” (33.02cm)
Width:	11.50” (29.21cm)
Height:	20.00” (50.80cm)
Weight:	12.25 Lbs (5.56kg)
Rating:	12,000-16,000 BTUH
Manifold Pressure:	4.5-11” wc **(**2740pa)
Orifice size:	.046” Dia. (1.2mm)
*Altitude:	0-4500 Ft. (Canada)
*Altitude:	0-2000 Ft. (U.S.A.)

3.0 Description:

3.01 Each heater assembly consists of a rugged lightweight aluminum housing and Base. Rubber feet on base provide stability & shock resistance.

3.02 A chrome plated wire basket guard with carrying handle protects both worker and heater.

3.03 A Secondary propane regulator, mounted in heater base, is UL listed.
NOTE: This regulator is factory pre-set and lacquer sealed for optimum performance. Any further adjustment is not necessary and could result in fire, personal injury, and property damage or warranty invalidation.

3.04 Heater is equipped with a safety shut-off valve, CSA & CGA listed, to protect against flame out or tip over. The rotary valve adjust from OFF, LOW to HIGH heat settings.

3.05 Ignition is done by a piezoelectric plunger type spark igniter system for instant firing of burner. No external power source is required. A hole in the reflector is provided for manual backup lighting of burner with a match.

3.06 Burner is of durable ceramic, infrared high efficiency, with heat enhancer rods and a polished aluminum reflector. This unique combination provides clean radiant heat economically.

4.0 **Safety Features:**

4.01 Protective wire guard protects user from burns.

4.02 CSA Listed Propane safety valve shut-off valve works on millivolt controlled shut off valve operating with a thermocouple sensor. As an added feature the valve provides tip over protection by shutting off the flow of fuel to the burner head.

4.03 Easy access to controls from back side of unit, reducing possibility of user burns from ignition flare-up.

4.04 Safety labeling provided on heater.

4.05 CSA & CGA tested and approved

5.0 Special Precautions: (CAUTION)

5.01 This heater is designed to function as a two-stage regulator system.
Meaning a first stage regulator is required at the bottle. Dropping bottle pressure down to 10 P.S.I. (pounds per square inch). The regulator built into the unit drops the 10 P.S.I down to 11" WC (water column).

5.02 Make sure all L.P. fittings are tight. Use only a pipe joint compound that is resistant to liquefied petroleum gases.

5.03 Propane bottle must be the vapor draw style, DOT (for U.S.) or CTC (for Canada) approved 20 or 40 Lb. Gas cylinder. Do not use a forklift or liquid withdrawal cylinder. **Use only LPG (propane) fuel.**

5.04 Propane is very flammable. Propane is scented and its strong odor is readily detectable. If a gas odor is detected at any time, do not operate or continue to operate the unit until the source of the gas odor has been located.
In the event of a leak, propane is heaver than air and will accumulate in low areas. **Never strike a match, create a spark or flame when you smell gas**. Move the heater outside and ventilate the area. Find and correct the source of the leak before attempting to light the heater. If the leak cannot be corrected, do not tamper with the heater. Turn the heater off and consult the manufacture or qualified technician.

5.05 **Do not lean over heater when lighting.** When lighting with a match, light through the hole provided on the side of the reflector. **Do not light at orifice.**

5.06 Do not move, handle or service unit while hot or burning. Permanent skin tissue damage can occur if contact is made with the unit. Let the heater cool down after it has been shut off.

5.07 Never direct this infrared construction heater toward any LP gas cylinder within 20Ft. The heater must be a minimum of six feet from any LP gas cylinder.
Keep away from fabric or other combustibles. Survey the work area for any potential hazards and correct them before operation.

5.07 Unit should be used in a well-ventilated area. Provide a positive air displacement of at least 4-CFM per 1000 BTUH of the heaters rated input.

5.08 Heater should be inspected before each use and at least annually by a Qualified service agency.

5.09 Minimum ambient temperature for using this heater is -20°F –(29°C). The heater Is designer for use as a construction heater under ANSI Z83.7 & CGA 2.14. Check with your local fire safety authority if you have questions about applications.

5.10 **WARNING:** For the safe installation of this unit, the following table of clearances Must be maintained.
NOTE: Clearances are established by A.N.S.I. and the Canadian Gas Association as proper clearances to combustible such as wood, cardboard, tent fabrics etc. in case of tip over or inadvertent unsupervised operation.

Clearance to Combustibles:

Side:	**18”**
Rear:	**18”**
Ceiling:	**48”**
Discharge End: (FRONT)	**48”**

6.0 Operating Procedures:

6.01 Inspect heater orifice, Fuel inlet and base for signs of liquid fuel or oil contamination. If present, DO NOT USE HEATER. Have a qualified technician disassemble LPG supply line and components to remove liquid fuel or oil before use.

6.02 Place heater on secure level surface. Heater must be positioned such that it is not directly exposed to wind, water, spray, rain and/or dripping water.

6.03 Connect LPG supply hose with first stage regulator assembly to a 20 or 40 LB. approved cylinder. (First stage regulator should take bottle pressure down to 10 to 35 PSI.) Connect to heater by either a quick disconnect fitting or 9/16” Left Hand threaded fitting. Tighten all connections.
Locate LPG gas cylinder at least 6Ft. from heater, in a position away from the Direct path of radiant heat from the heater.

6.04 Turn on the fuel at cylinder and recheck all fittings for possible leaks using a soap solution. Tighten any leaks found and retest. Never use a match to check for leaks. NOTE: the longer the fuel hose length the longer period of time to purge the hose of air from the initial hookup.

6.05 **TO IGNITE:** First depress and turn rotary knob, located on the back of heater base, too the HIGH position, first detent. Kneeling behind heater (DO NOT STAND OVER HEATER) Second, depress and hold the brass button on the safety shut off valve located under the heaters ceramic head in the middle of the base. While still holding down on the brass button, push down on the igniter button repeatedly until the heater ignites. Continue holding the safety valve button in for approximately one minute to heat the thermocouple. When the thermocouple is hot enough, release the safety valve button and the heater will stay lit. If the heater goes out, turn off the fuel valve and the tank valve and wait for five minutes and repeat lighting procedure.

6.06 **Alternate lighting procedures:** A long match may be inserted through the opening in the heater shield on the left side in lieu of the piezoelectric igniter while observing all other safety precautions. Once the heater has been lit, you can adjust the heat output to the desired setting.

6.07 **To turn heater off:** First turn off the fuel supply at the bottle. This burns off excess fuel in the supply hose and lowers line pressure. When the heater flame goes out, turn the rotary knob to the off position. Let the heater cool down and you can

disconnect hoses and store away. NOTE: The unit must not be relit for 5-minutes after a shut off. Follow paragraph 6.05 to reignite.

6.08 In the event heater is inadvertently tipped over while operating, the gas flow will be cut off by the safety ball check valve. To reignite you must first stand heater upright. Then to release the safety ball check valve, you must turn off the rotary valve on the back of the heater and fuel cylinder, wait 5-minutes, then turn valves on again to reset for ignition. If heater still will not ignite, see Restart Trouble Shooting (see Dwg. #109207) for further instructions.

6.09 Use of the heater in a drafty area may result in a loss of heater efficiency. Operate the unit in a draft free area or turn the back of the heater into the wind.

6.10 NOTE: The hose assembly shell be visually inspected prior to each use. If it is evident that there is excessive abrasion or wear, or the hose is cut, it must be replaced prior to heater operation. The replacement hose assembly must be that specified by the manufacture. See parts list.

6.11 When a heater is installed or stored indoors you must conform to the local building Codes, or in there absence the current Standard for Canada or the U.S., CAN/CGA-B149.2 or ANSI/NFPA-58 titled Storage and handling of liquefied petroleum gases. When stored or not in use the connection between the LPG cylinder/bottle and the heater must be disconnected and the cylinder removed from the heater.

7.0 Care, Maintenance & Service:

7.01 Visually inspect daily for oil or liquid fuel contaminant present in the heater or fuel supply hose. If any is evident, heater should be cleaned and or repaired by a qualified technician before use.

7.02 If the heater has not been in service for a period of time, the following procedure should be initiated before placing it back into operation. Use an air hose (not to exceed 30 PSI.) Blow off any dust/dirt that has accumulated on the heater. Pass then air hose over the entire exposed area of ceramic. Vacuuming is acceptable.

7.03 Clean the venture tube and orifice spud allowing air pressure to flow for approximately one minute. If venture still appears dirty, remove orifice bracket and clean with a nylon brush (toothpick, pipe cleaner) If a residue or deposit inside the orifice spud remains after an attempt has been made to clean it, it must be replaced with a new orifice and a tip-over ball check obtained from the factory. DO NOT CLEAN ORIFICE WITH A DRILL OR OTHER METAL OBJECTS.

7.04 Wipe the reflector clean using a soap and water solution or a non-abrasive aluminum cleaner.

7.05 If a malfunction in the pressure regulator or safety shut-off valve control valve is Found after placing the heater in operation, consult the factory or an experienced Heating contractor for repair or replacement.

7.06 The Pelsue portable radiant infrared construction heater contained in this carton has been assembled at the factory and is in operational condition without the need of adjustment or further assembly. Alteration of the heater or replacement of components not specified by the Pelsue Co. voids all warranties.

7.07 If additional service is required, contact the factory or distributor.

For Sales and Service Contact:

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8.0 Troubleshooting:

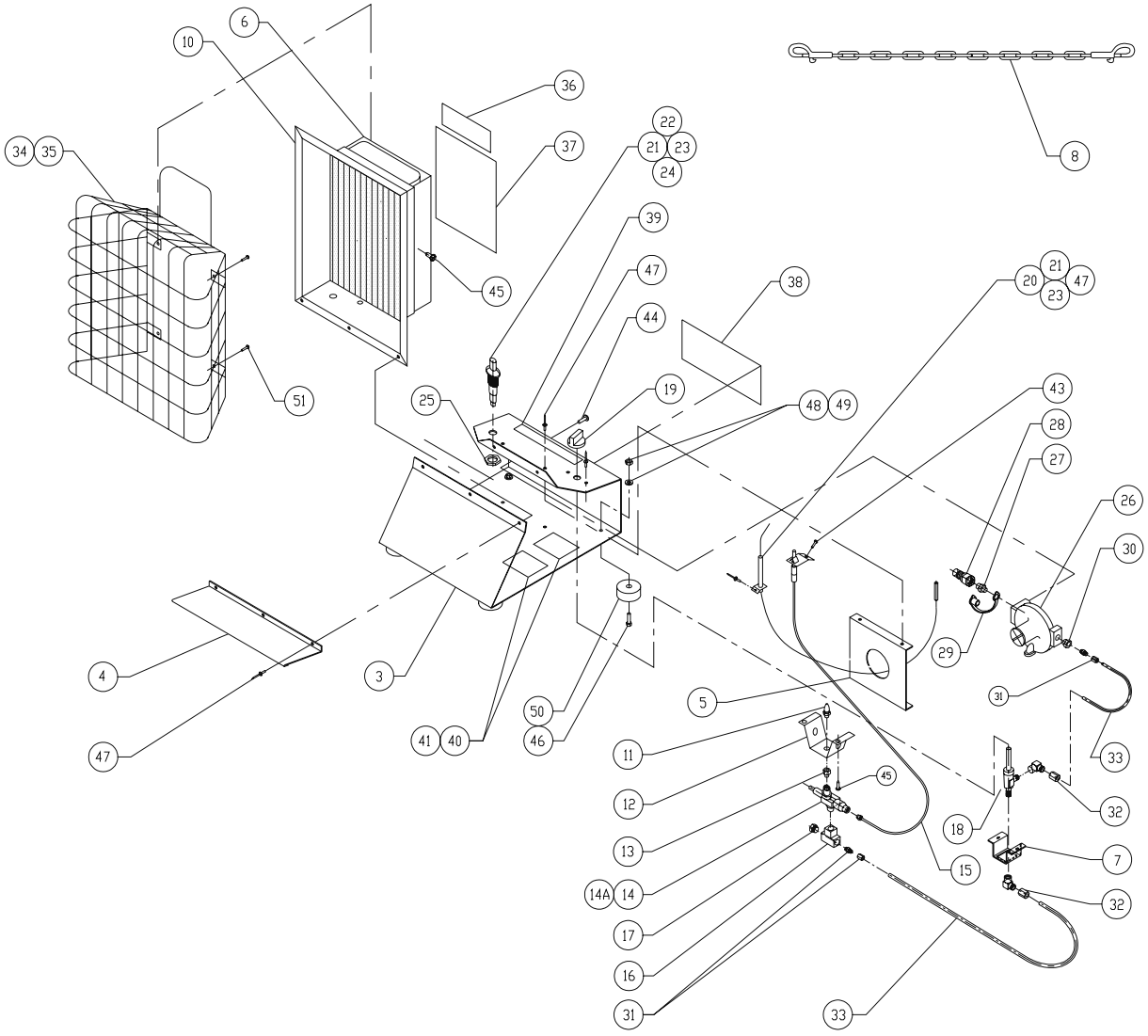
Symptom	Cause	Remedy
Heater fails to light	Cylinder's gas valve closed	Open valve
	Manual shutoff valve closed	Open valve
	Excessive draft	Relocate or reposition heater
	Heater inlet pressure too low.	Verify adequate fuel supply is Available. Check regulator outlet pressure 11"WC on high position
	Heater safety control valve defective.	Replace
	Obstruction in orifice spud	Clean or replace
	Spark generator wired disconnected or grounded.	Reconnect or replace
	Electrode out of alignment	Adjust to 1/8" from heat rods
	Electrode ceramic cracked	Replace
	Spark generator defective	Replace
Heater lights – flame Extinguishes when releasing Safety valve button after Depressing for 60 seconds.	Inadequate gas pressure	Increase to 11"W.C. on high
	Insufficient fuel supply	Provide adequate fuel supply
	Thermocouple defective or loose	Replace or tighten electrical Connections
	Heater safety valve defective	Replace
Fuel mixture burning within Rayhead assembly	Gas connection loose	Tighten & check for leaks
	Inlet pressure too high	Reduce to 11"W.C. on high
	Cracked or broken ceramic	Replace rayhead assembly
	Improper lighting	Light ceramic burner element & not at the orifice. See Sec. 6.0 Operating Procedure
Ceramic temperature below 1700°F. (not orange in color)	Orifice spud misaligned	Replace orifice mtg. bracket
	Obstruction in orifice spud	Clean or replace
	Inadequate gas pressure	Increase to 11"W.C. on high
	Cylinder's gas valve not fully open	Open
	Manual shutoff valve not fully open	Open
	Kinked or obstructed fuel line/hose	Straighten or clean
	Ceramic separated or cracked	Replace
Heater Flare-up	Contaminated fuel	Disassemble, thoroughly clean unit and LPG filter
	Liquid fuel reaches heater	Possible overfilled LP bottle Or using liquid withdrawal bottle. Replace with vapor draw style bottle.
	Wind or drafty conditions	Relocate heater as so the wind comes from behind the unit.

8.0 Troubleshooting:

Heater Extinguishes on Low setting	Control valve turned beyond low position.	Adjust valve to proper range
	Dirty orifice	Clean orifice
	Inadequate gas pressure	Increase to 11”W.C. on high position.

NOTE: If after reviewing and or identifying one or more of the above remedies, proper heater operation characteristics cannot be obtained, consult the factory or distributor for further inspection and repair. Improper operation may cause faulty combustion and/or fire with resultant danger of personal injury, death and/or property damage.

9.0 Assembly Drawing & Parts List:



9.01 Parts List:

Item No.	Description	Part No.
3.	Base – Heater, 1557 as painted	114600-001
4.	Heat Shield – model 1557 heater	114611-001
5.	Support – heater base	114601-001
6.	Panel – rear replacement	119869-001
7.	Mounting bracket – rotary valve	123179-001
8.	Hanger chain ass'y – w/snap hooks	109233-001
9.	OPEN	
10.	Rayhead – ceramic element w/rods & reflector	109246-001
11.	Orifice spud – Propane 16,000 BTUH	109180-001
12.	Mounting Bracket – orifice spud	109182-001
13.	Seat – orifice spud	109224-001
14.	Safety valve – shutoff manual (brass button)	109183-002
14A.	Solenoid – coil, safety valve	109184-001
15.	Thermocouple – 10"Lg. Use w/non thrd. valve	109185-002
16.	Brass tee – 1/8FNPT X 1/8FNPT X 1/8FNPT	32F-152200
17.	Pipe plug – 1/8"MNPT, Hex hd.	109244-001
18.	Valve – Rotary, high / low	123180-001
19.	Knob – for rotary valve	114613-001
20.	Electrode – Igniter probe	109176-001
21.	Sleeve – vinyl insulation, ¼"∅ x 1"Lg.	109291-001
22.	Piezoelectric igniter – plunger type	109170-001
23.	Wire assembly – white, 18Ga. 23"Lg.	109292-001
24.	Wire assembly – black, 18Ga. 23"Lg.	109293-001
25.	Nut – igniter mount	109494-001
26.	Regulator – LPG, set to 11" W.C.	35G-010100
27.	Nipple – Hex pipe, ¼" MNPT	107060-001
28.	Nipple – Quick disconnect, 250-PSI rated	122429-001
29.	Dust cap – yellow rubber	109264-001
30.	Reducer bushing – hex, 3/8"MNPT x 1/8"FNPT	114621-001
31.	Compression fitting – ¼" tube x 1/8"MNPT	112307-001
32.	Comp. Fitting, 90° elbow – ¼" tube x 1/8"FNPT	32F-157700
33.	Tubing – copper, ¼"O.D. x .032 wall	59Z-011000
34.	Grille – Basket, Wire guard, nickel-plated	114604-001
35.	Laminated card – 1557 trouble shooting	116051-001
36.	Decal – Warning infrared construction heater	109231-001
37.	Decal – I.D. Plate & serial no., model 1557	114609-001
38.	Decal – Warning & instructions in French	114623-001
39.	Decal – Caution do not move while in use	109232-001
40.	Decal – Warning, general hazard	110292-001
41.	Decal – Warning, hazardous conditions	110289-001
42.	OPEN	
43.	Screw - #8 x 3/8"Lg. Hex Hd. Sheet metal	68N-035300
44.	Screw - #10 self-tapping sheet metal	106302-001

45.	Screw - #12 x ½"Lg. Self tapping, hex hd.	105273-002
46.	Screw – ¼-20 x ¾"Lg. Hex hd. Cap, Zn plated	101427-002
47.	Pop rivet – Stavex, 3/16"∅ x .06-.38 grip range	118518-001
48.	Flat Washer – ¼" Type-A, Plated	100050-009
49.	Lock nut – ¼-20 Hex, nylon insert	100048-114
50.	Rubber foot – 1 ½" Dia.	100188-002
51.	Screw - #8 x 3/8"Lg. Pan Hd. Phillips	108328-001

10.0 Accessories:

10Ft. (3.05m) LPG hose w/quick disconnects (CSA Approved)	122430-010
20Ft. (6.01m) LPG hose w/quick disconnects (CSA Approved)	122603-010
25Ft. (7.62m) LPG hose w/quick disconnects (CSA Approved)	122604-010
Regulator Ass'y – POL full flow, w/ 7/8" LH Thrd., 10-PSI Reg. & quick disconnect coupler for above hoses.	122602-001
Regulator Ass'y – POL Hand Turn w/ 1 5/16 Acme Thrd., 10-PSI Reg. & quick disconnect coupler for above hoses	122602-002
Regulator Ass'y – POL Excess flow, soft seat, 7/8"LH Thrd. Adj. Reg. with filter, gauge & quick disconnect coupler	1590-FQ