

INSTRUCTIONS
WITH
ILLUSTRATED PARTS LIST
MODEL B-155E PORTABLE HEATER

(Spec. No. 2720 G3-4)



Master
Division of Koehring Company

SECTION I

OPERATING INSTRUCTIONS

UNPACKING

Remove the heater from the carton. The heater is shipped assembled.

STARTING HEATER

General.

Fill tank with clean fuel; use only kerosene or No. 1 fuel oil. Do not use Diesel oil. Use top-grade fuel only for efficient performance. The use of kerosene is recommended where clean, dry heat is desirable. Lower grades of fuel oil congeal at low temperatures and should not be used when the heater is operating in temperatures below +10°F.

NOTE

Fuel tank capacity is 13 U.S. gallons. Heater will operate continuously for approximately 14 hours on a full fuel tank.

Plug the heater extension cord into a 220 volt, 50 cycle power source and electrically ground the heater.

CAUTION

Do not use a power source other than specified on name plate. Any other type of power will damage the heater.

Use the following size wire for connecting the heater during operation:

Distance in Feet

Wire Size (AWG)

100	# 12
200	# 10
300	# 8
400	# 6
500	# 4

Operating During Concrete Pouring and Curing.

Adequate ventilation (partly open door or window near heater level) during first 24 hours of concrete curing will prevent excess heat and carbon dioxide, and will provide oxygen for proper combustion. Do not aim the airflow from the heater directly onto the curing concrete.

Starting Manually Controlled Heater (See figure 3).

Place the switch (64) in the ON position. Wait 3 to 5 seconds for the pump to reach operating pressure. Place the handle of the valve (49) in the straight up position. The heater should ignite immediately. The flame can be seen when looking through the fan blades into the combustion chamber. If the heater does not ignite within 90 seconds, place the valve handle in the downward position and check the heater as described in "Service".

STOPPING HEATER

Manual Heater.

Place the valve handle in the down position to stop the flow of fuel. Wait approximately 3 to 5 minutes, permitting the motor to operate and purge the heater. After purging, place the switch in the OFF position.

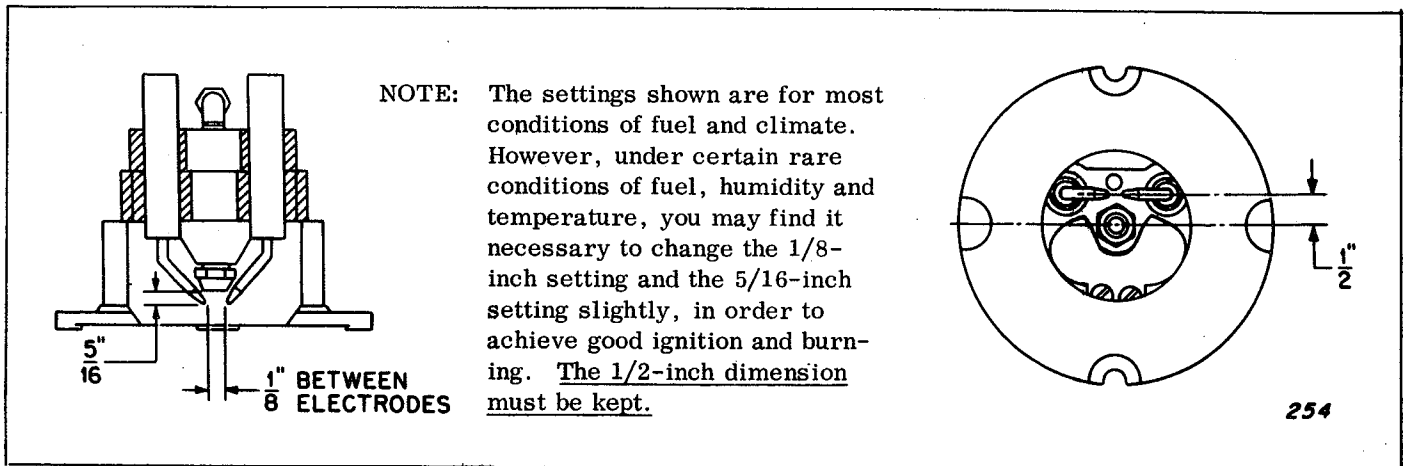


Figure 1. Burner Electrode Settings

SECTION III

REPAIR PARTS LIST

For the benefit and convenience of owners, Company distributors have been established throughout the country. These distributors carry a supply of genuine parts and all requests for parts should be placed with them. If some particular part is not available, the distributor can obtain it promptly from the factory. In those cases where no distributor is available, parts may be obtained direct from the factory.

When ordering parts it is absolutely necessary that the following information be furnished with the order:

1. The model, specification number and serial number found on the name plate.
2. Part name and number, obtained from this parts list.
3. Quantity of part needed.
4. Original invoice number, if possible.

The repair parts list contains a complete listing of replaceable parts for the Heater. Standard hardware is indicated by the symbol (\$) and may be purchased locally.

All parts are indexed on the illustrations. These index numbers are listed on the parts list for the particular assembly. For example, index number 3-4 on the parts list means that the part is number 4 on figure 3. These index numbers are not to be used for ordering any part. Use the part number and part name when ordering.

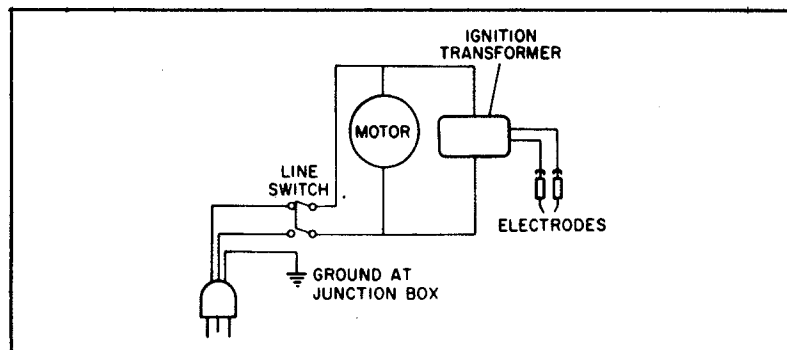
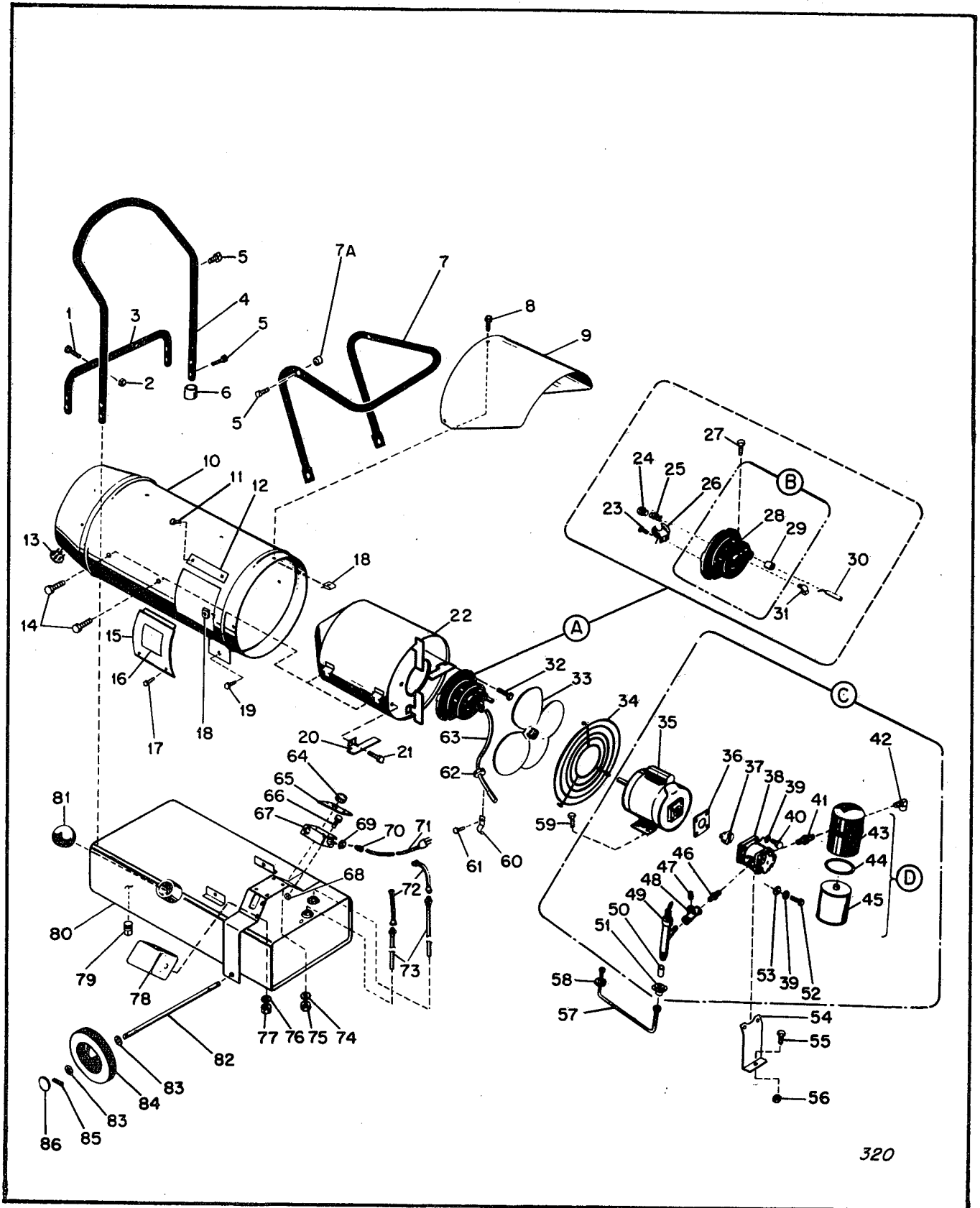


Figure 2. Wiring Diagram for Manually Controlled Heater

Index No.	Part Number	Part Name or Description	Qty.
3-1	HC4-8C	Screw, Hex hd, 1/4-20 x 1	2*
-2	NLC-4C	Nut, Torque Lock, 1/4-20	2*
-3	M10935G1	Handle Brace Assy	1
-4	M10934	Front Leg	1
-5	M12461-33	Screw, Hexhd, 10-32 x 1-1/4	8*
-6	M8704-2	Button, Plug	2
-7	M14854	Back Leg	1
-7A	M14857	Spacer	2
-8	M11084-40	Screw, Self-tapping, hex hd, No. 8-15 x 5/8, Type A	3*
-9	M3364	Cowl	1
-10	M10926G4	Outer Shell Assy	1
-11	M10908-1	Screw, Self-tapping, hex hd, No. 6-32 x 1/4, Type S	2*
-12	M10943	Tech Data and Name Plate	1
-13	M6572	Button, Plug	1
-14	M10908-27	Screw, Self-tapping, hex hd, No. 10-32 x 1/2, Type S	4*
-15	M8988G2	Access Door Assy	1
-16	M5620	. Operating Instructions	1
-17	M11084-40	Screw, Self-tapping, hex hd, No. 8-15 x 5/8, Type A	2*
-18	M11271-5	Nut, Tinnerman	5
-19	M11084-16	Screw, Self-tapping, hex hd, No. 14-10 x 5/8, Type A	2*
-20	M4785	Air Deflector	1
-21	M11084-38	Screw, Self-tapping, hex hd, No. 8-15 x 3/8, Type A	2*
-22	M9758G3	Combustion Chamber Assy	1
(A)	M9107G5	Burner Head Assy	1
-23	RC1-2	. Screw, Rd. hd, No. 6-32 x 1/4	2*
-24	M12866	. Nozzle	1
-25	M4274	. Nozzle Spring	1
-26	M3978	. Air Deflector	1
-27	HF3-3	. Screw, Hex hd, No. 10-32 x 3/8	2*
(B)	M3853G1	. Burner Body and Bushing Assy	1
-28	M10947	. . Body, Burner	1
-29	M16712	. . Bushing, Electrode	2
-30	M3981	. Electrode	2
-31	M2294	. Compression Fitting	1
-32	M12461-16	Screw, Hex hd, No. 8-32 x 5/8	2*
-33	M9954	Fan	1
-34	M3247	Fan Guard	1
(C)	M10931G4	Motor Package Assembly (Alternate: M10931G8, uses M9754-1 Motor)	1
-35	M9809	. Motor (Alternate: M9754-1)	1
-36	M3547	. Gasket	1
-37	M3473	. Coupling	1
-38	M11138-4	. Pump	1
-39	WLI-5	. Lockwasher, Internal tooth, 5/16	4*
-40	HC5-6	. Screw, Hex hd, 5/16-18 x 3/4	2*
-41	M3297	. Nipple	1
-42	57413	. Elbow	1
(D)	M3973	. Filter	1
-43	M4307	. . Filter Can (Replacement)	1
-44	M3301-2	. . Filter Gasket (Replacement)	1

Index No.	Part Number	Part Name or Description	Qty.
-45	M3307-1	. . Filter Element (Replacement)	1
-46	M10953	. Nipple	1
-47	57419	. Pipe Plug	1
-48	69255	. Tee	1
-49	M3296	. Fuel Valve	1
-50	M5774	. Sleeve	1
-51	M5773	. Nut	1
-52	HC5-7	. Screw, Hex hd, 5/16-18 x 7/8	2*
-53	WP-5	. Washer, Flat, 5/16	2*
-54	M3526	Bracket	1
-55	M12461-27	Screw, Hex hd, No. 10-32 x 1/2	1*
-56	NLF-3	Nut, Flexloc, 10-32	1*
-57	M3475	Fuel Line	1
-58	1000577	Grommet (Fuel Line thru Outer Shell)	1
-59	HC4-6	Screw, Hex hd, 1/4-20 x 3/4	4*
-60	M3570	Clip, Nylon (Electrode Leads to Outer Shell)	2
-61	M11084-38	Screw, Self-tapping, hex hd, No. 8-15 x 3/8, Type A	1*
-62	1000576	Grommet (Electrode Leads thru Outer Shell)	2
-63	M10816G7	Electrode Lead Assy	2
-64	M3480	Switch	1
-65	M3308	Switch Box Cover	1
-66	M12461-27	Screw, Hex hd, No. 10-32 x 1/2	2*
-67	M6016	Utility Box	1
-68	NLF-3	Nut, Flexloc, 10-32	2*
-69	M3530	Grommet, 7/8 (In Utility Box)	2
-70	1001349	Connector	1
-71	M15779G10	Extension Cord Assy	1
-72	M3334G8	Fuel Line Assy	2
-73	M10923	Intake and Return Tube Assy	2
-74	WP-4	Washer, Flat, 1/4	4*
-75	NLC-4	Nut, Flexloc, 1/4-20	4*
-76	WLM-4	Lockwasher, 1/4	2*
-77	NPC-4	Nut, Hex, 1/4-20	2*
-78	M8434-3	Transformer	1
-79	M8257	Pipe Plug (Fuel tank drain)	1
-80	M12485G1	Fuel Tank Assy	1
-81	M3353	Fuel Tank Cap	1
-82	M12486-3	Axle	1
-83	WP-8	Washer, Flat, 1/2	4*
-84	M16896	Wheel	2
-85	C4-8	Cotter Pin, 1/8 x 1	2*
-86	M14262	Hub Cap	2
-	M5374	Tag, "Please Read"	1
-	M6011	Decal, "Caution"	1
-	M13096	Decal, "Master"	1
-	M11595	Nameplate "Mfd. by"	1
-	M16420	Decal, "Caution"	1
-	M9968	Wiring Diagram	1
OPTIONAL EQUIPMENT			
-	M8768	Thermostat Control Kit	
-	M6764	Fan Shutoff Kit	
-	M8768 FS	Thermostat and Fan Shutoff Kit	
-	M11480	Combustion Control	
-	M9408	Low Oil Cutoff	
-	M11818G2	Spark Arrestor Assembly	

* Standard hardware, may be obtained locally.



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Figure 3. Model B-155E Heater, Exploded View

ALTERNATE PIPING FOR SUNDSTRAND PUMP

Index No.	Part Number	Part Name or Description	Qty.
-	M10686	Kit, Fuel Pump (with Sundstrand Pump)	1
-87	M9603	Fuel Pump, Sundstrand	1
-88	M3334G11	Fuel Line Assy (Tank to filter; replaces one M3334G8 Fuel Line Assy)	1
-89	M3334G10	Fuel Line Assy (Overflow to tank; replaces other M3334G8 Fuel Line Assy)	1

Index No.	Part Number	Part Name or Description	Qty.
-90	M10759	Fuel Line (Tube only; to burner; replaces M3475 Fuel Line)	1
-91	57413	Street Ell (In pump return port)	1
-41	M3463	Fitting, Hex Nipple (Between pump and Filter; replaces M3297 Nipple)	1

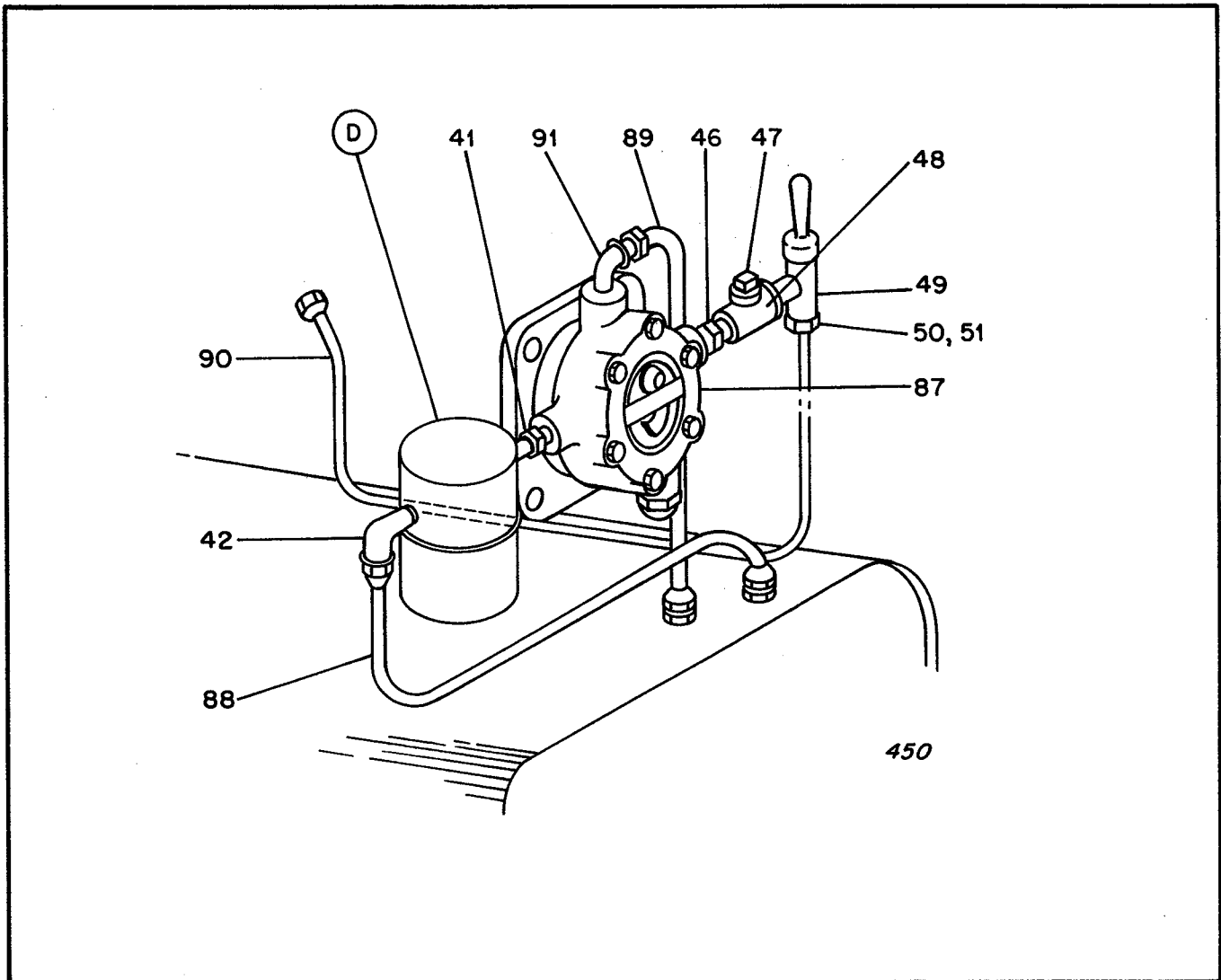


Figure 3 (Sheet 2 of 2). Alternate Piping, Using Sundstrand Pump

**OPTIONAL
THERMOSTAT CONTROL KIT
FOR MODEL B-155E
PORTABLE HEATER**

INSTALLATION

Install the thermostat control kit by following the illustration below, Figure 4.

STARTING

The thermostatically controlled heater does not use a hand valve to control the flow of fuel to the nozzle. A solenoid valve, actuated by the thermostat, controls fuel flow.

To start, place the switch in the ON position. The motor and pump will operate immediately. Wait 10 seconds and set the thermostat to the desired setting. This setting must be above the temperature of the air in the area of the heater.

Setting the thermostat in this manner causes the solenoid valve to open, permitting the pump to supply the burner with fuel. The fuel should ignite immedi-

ately. If ignition does not take place within 90 seconds, set the thermostat and switch in the OFF positions and check the heater as described under "Service".

After ignition has taken place, the heater will burn continuously until the thermostat setting is satisfied. At this time, the thermostat will shut off the power to the solenoid valve, and the solenoid valve will stop the fuel flow. However, the motor, pump, and fan will continue to operate. When the temperature in the area falls below the thermostat setting, the thermostat will again energize the solenoid valve to permit fuel to flow to the burner for ignition.

STOPPING

Set the thermostat to the OFF position. Wait approximately 3 to 5 minutes, permitting the motor to operate and purge the heater. Place the switch in the OFF position.

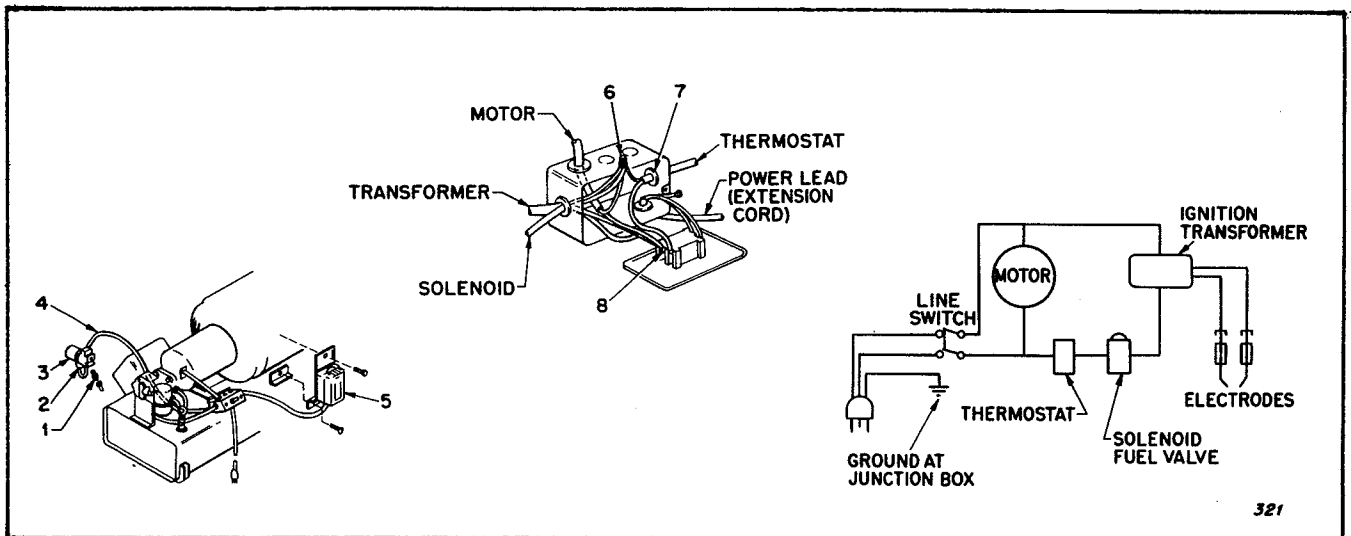


Figure 4. Installation of Thermostat Control Kit on Model B-155E Portable Heater

PARTS LIST

Fig. & Index No.	Part Number	Part Name or Description	Qty Per Kit
4-	M8768	Thermostat Control Kit 220 volts, 50 cycles, Spec No. 2730G1, for Model B-155E Portable Heaters	1
-1	1000513	Fitting, 3/16 in. Tube	1
-2	1001349	Connector, Straight, 3/8 in.1	

Fig. & Index No.	Part Number	Part Name or Description	Qty Per Kit
4-3	M4157	Solenoid Fuel Valve	1
-4	M3486-2	Tubing	1
-5	M9195G2	Thermostat and Bracket Assy	1
-6	M3558	Wire Nut	1
-7	M3530	Grommet	1
-8	69321-10	Terminal	1

WARRANTY

Manufacturer warrants each new Product made by Manufacturer to be free from defects in material and workmanship, its obligation and liability under this Warranty being expressly limited to repairing or, at Manufacturer's option, replacing free of charge at its factory any part proving defective under normal use and service within ninety days of operation after date of delivery to a customer as attested by Distributor. Parts claimed to be defective and for which repair or replacement is desired shall be, if requested by Manufacturer, returned transportation prepaid to Manufacturer's factory for inspection. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE, AND THE OBLIGATION AND LIABILITY OF MANUFACTURER UNDER THIS WARRANTY SHALL NOT INCLUDE ANY TRANSPORTATION OR OTHER CHARGES OR THE COST OF INSTALLATION OR ANY LIABILITY FOR DIRECT, INDIRECT OR CONSEQUENTIAL DAMAGES OR DELAY RESULTING FROM THE DEFECT. Any operation beyond rated capacity or the improper use or application of Product or the substitution upon it of parts not approved by Manufacturer or any alteration or repair by others in such manner as, in Manufacturer's judgment, to affect the Product materially and adversely shall void this Warranty. No representative of Manufacturer is authorized to change this Warranty in any way, and no attempt, effort or promise to repair Products of Manufacturer either by Manufacturer or by any representative of Manufacturer at any time shall change or extend this Warranty in any way. This Warranty covers only new and unused Products Manufactured by Manufacturer. Products manufactured by others are covered only by such warranties as are extended to Manufacturer by its suppliers.

In accordance with our established policy of constant improvement, we reserve the right to amend these specifications at any time without notice. THE ONLY WARRANTY APPLICABLE IS OUR STANDARD WRITTEN WARRANTY. WE MAKE NO OTHER WARRANTY, EXPRESSED OR IMPLIED, AND PARTICULARLY MAKE NO WARRANTY OF SUITABILITY FOR ANY PARTICULAR PURPOSE.



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