



# **TUBE HEATER** **TROUBLESHOOTING GUIDE**

## **MODELS: SV Series Tube Heater**

THESE HEATERS **MUST** BE INSTALLED AND SERVICED BY TRAINED GAS INSTALLATION AND SERVICE PERSONNEL ONLY. READ AND UNDERSTAND ALL INSTRUCTIONS THOROUGHLY BEFORE ATTEMPTING TO INSTALL, OPERATE OR SERVICE THE DETROIT RADIANT PRODUCTS COMPANY 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.

**CAUTION!** Heater may be hot. Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance. Note presence of flammable gas and electrical shock hazard.

**WARNING!** Extinguish open flame while servicing heaters. Test for gas leaks with soap and water solution only. Wear safety glasses while servicing unit.

### **FOR YOUR SAFETY!**

#### **IF YOU SMELL GAS:**

1. Open windows.
2. Do not touch electrical switches.
3. Extinguish any open flame.
4. Immediately call your gas supplier.

### **SHUTDOWN INSTRUCTIONS!**

1. Open electrical circuit.
2. Rotate heater's manual gas valve knob to "OFF" position.

### **Approval Standards and Certifications**

Detroit Radiant Products units comply with or are certified by the following Organizations or Standards:

- American National Standards (ANSI Z83.6)
- Occupational Safety and Health Act (OSHA)
- American Gas Association (AGA)
- International Approval Services (IAS)

**IMPORTANT:** Any alteration of the system or of the factory-authorized components specified either in this manual or by Detroit Radiant Products Company voids all certification and warranties.

## **Detroit Radiant Products Company**

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# SV Series

**▲ WARNING!**

**NOT FOR RESIDENTIAL USE!**

Do not use in the home, sleeping quarters, attached garages, etc.

**▲ WARNING!**

This heater must be installed and serviced by trained gas installation and service personnel only. Read and understand these instructions thoroughly before attempting to install, operate or service this heater. Failure to comply could result in personal injury, asphyxiation, death, fire, and/or property damage. Retain these instructions for future reference.

**▲ WARNING!**

This is not an explosion-proof heater. Where there is the possibility of exposure to flammable vapors, consult the local fire marshal, the fire insurance carrier and other authorities for approval of the proposed installation.

**▲ WARNING!**

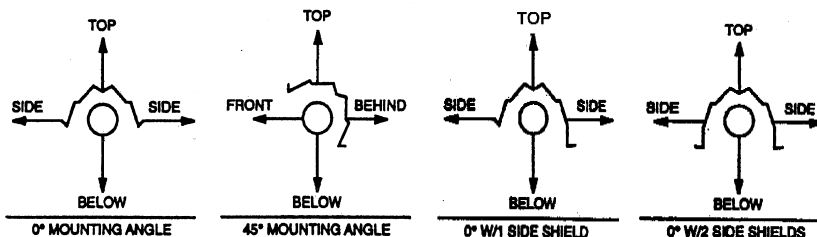
Failure to comply with the stated clearances to combustibles could result in personal injury, death and/or property damage.

**▲ WARNING!**

This heater should be installed so that the minimum clearances to vehicles, as marked on the heater, will be maintained. If vehicle lifts are present, ensure that these clearances will be maintained from the highest raised vehicle.

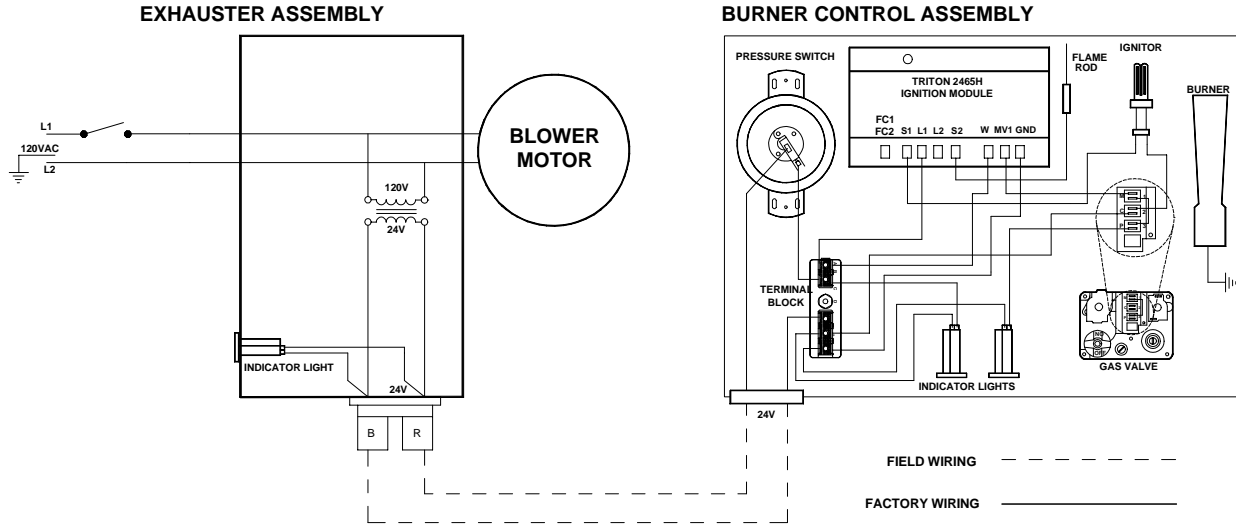
**CLEARANCES TO COMBUSTIBLES (IN.)**

MODEL NO.	MOUNTING ANGLE	SIDE		TOP	BELOW	
		FRONT	BEHIND			
SV (20,30,40)-50 [N,P]	0°	9	9	6	47	
	45°	39	8	10	47	
	W/1 side shield	0°	29	8	6	47
	W/2 side shields	0°	9	9	6	47
	20 ft from burner	0°	7	7	6	30
SV (20,30,40)-60 [N,P]	0°	9	9	6	47	
	45°	39	8	10	47	
	W/1 side shield	0°	29	8	6	47
	W/2 side shields	0°	9	9	6	47
	20 ft from burner	0°	7	7	6	30
SV (20,30,40)-75 [N,P]	0°	9	9	6	60	
	45°	39	8	10	60	
	W/1 side shield	0°	29	8	6	60
	W/2 side shields	0°	9	9	6	60
	20 ft from burner	0°	7	7	6	30
SV (20,30,40,50)-100 [N,P]	0°	14	14	6	66	
	45°	39	8	10	66	
	W/1 side shield	0°	29	8	6	66
	W/2 side shields	0°	16	16	6	66
	20 ft from burner	0°	7	7	6	30
SV (30,40,50,60)-125 [N,P]	0°	20	20	6	76	
	45°	58	8	10	76	
	W/1 side shield	0°	42	8	6	76
	W/2 side shields	0°	20	20	6	76
	20 ft from burner	0°	7	7	6	30
SV (40,50,60)-150 [N,P]	0°	24	24	6	81	
	45°	58	8	10	81	
	W/1 side shield	0°	42	8	6	81
	W/2 side shields	0°	23	23	6	81
	20 ft from burner	0°	11	11	6	44
SV (40,50,60,70)-175 [N,P]	0°	34	34	6	92	
	45°	63	8	10	92	
	W/1 side shield	0°	50	8	6	92
	W/2 side shields	0°	30	30	6	92
	20 ft from burner	0°	11	11	6	44
SV (50,60,70,80)-200 [N,P]	0°	41	41	6	94	
	45°	63	8	10	94	
	W/1 side shield	0°	54	8	6	94
	W/2 side shields	0°	30	30	6	94
	20 ft from burner	0°	11	11	6	44
SV (60,70,80)-225 [N,P]	0°	41	41	6	94	
	45°	63	8	10	94	
	W/1 side shield	0°	54	8	6	94
	W/2 side shields	0°	30	30	6	94
	20 ft from burner	0°	11	11	6	44

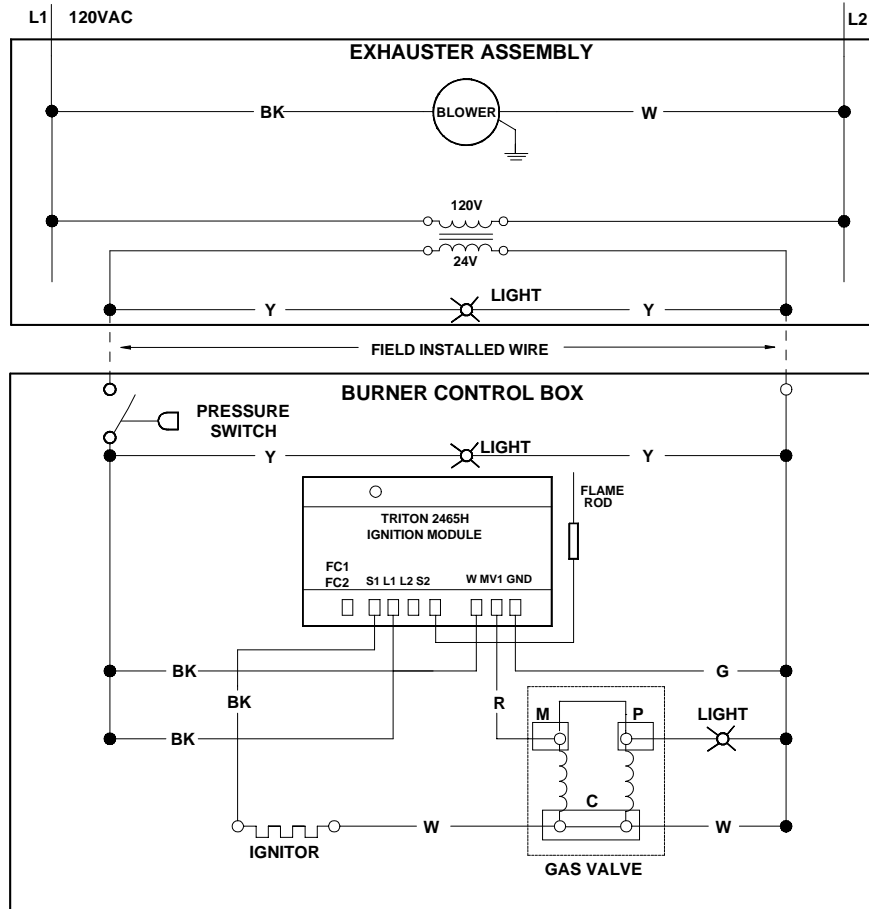


# Internal Wiring Diagrams

## BLOCK WIRING DIAGRAM

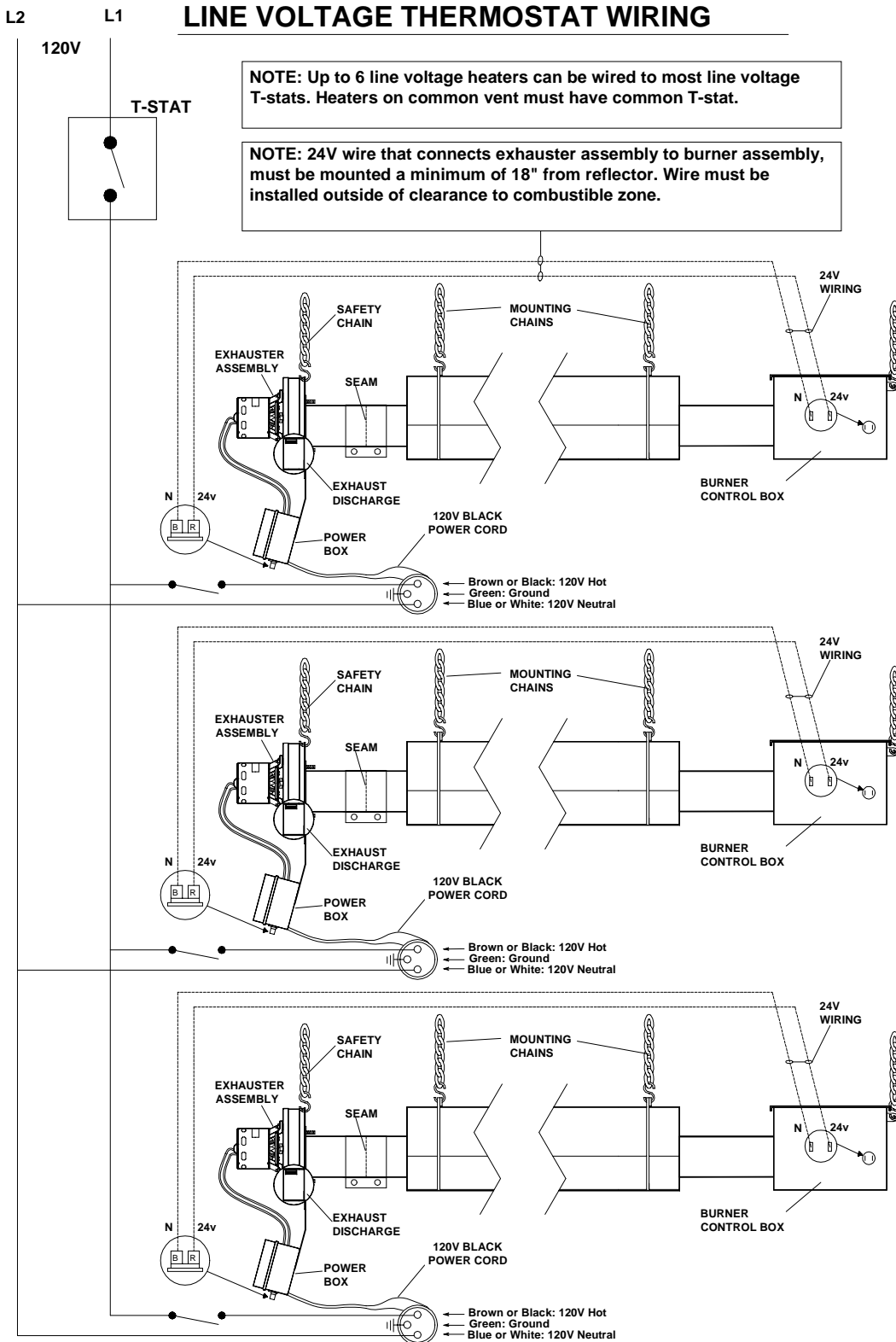


## LADDER WIRING DIAGRAM



# SV Series

## Field Wiring Diagrams with Line Voltage Thermostat



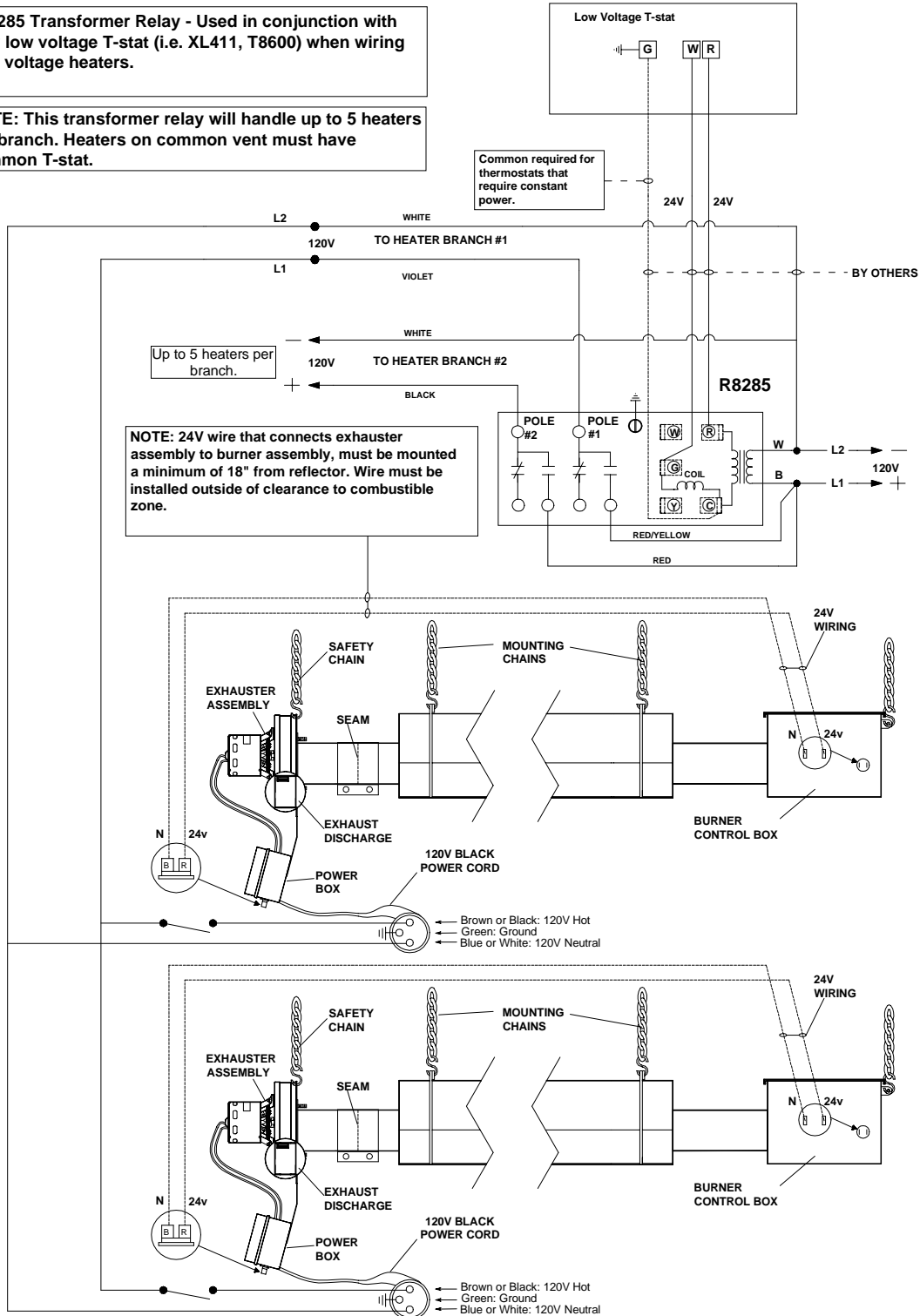
# Field Wiring Diagrams with Low Voltage Thermostat

## LOW VOLTAGE THERMOSTAT WIRING

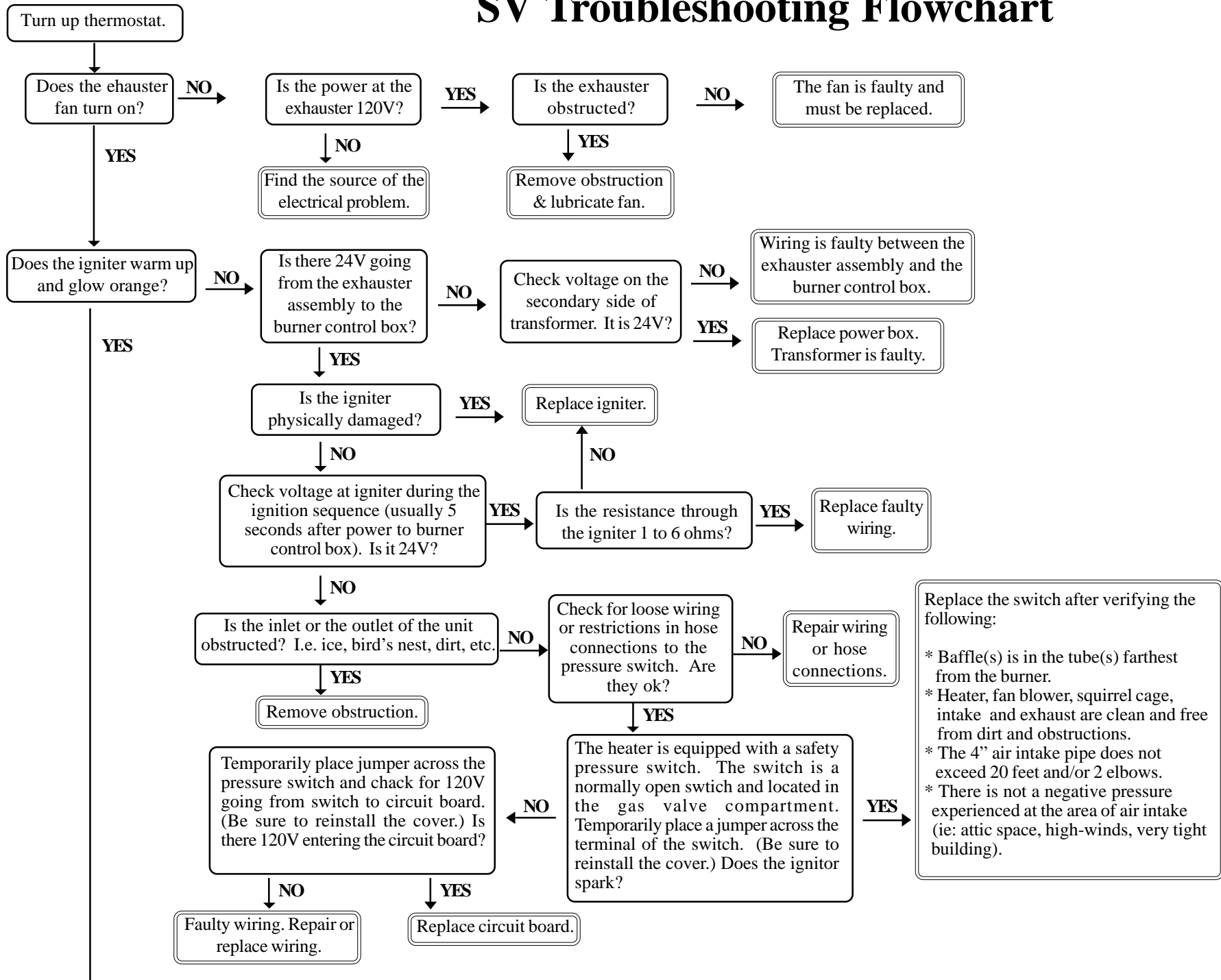
R 8285 Transformer Relay - Used in conjunction with any low voltage T-stat (i.e. XL411, T8600) when wiring line voltage heaters.

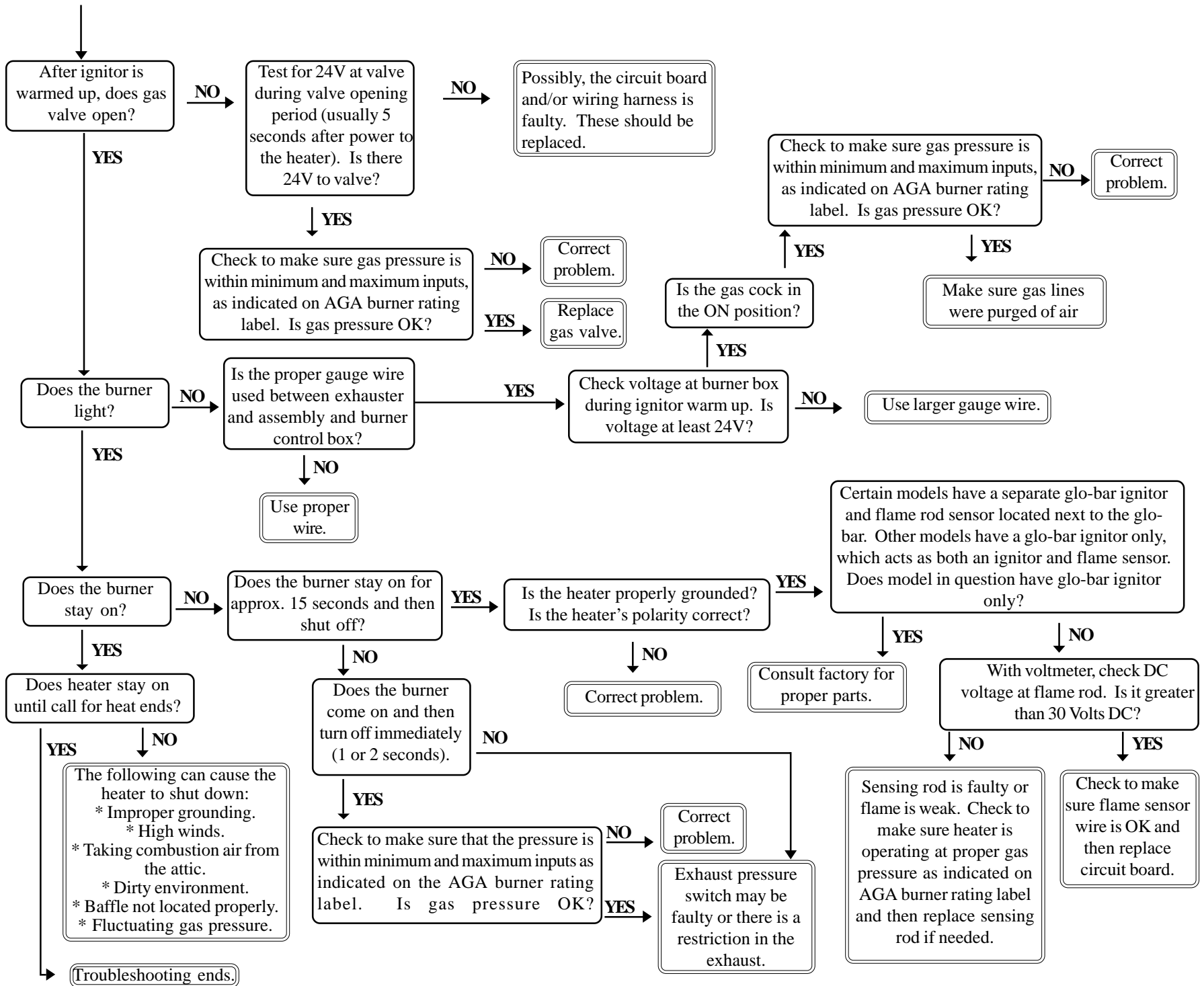
NOTE: This transformer relay will handle up to 5 heaters per branch. Heaters on common vent must have common T-stat.

Common required for thermostats that require constant power.



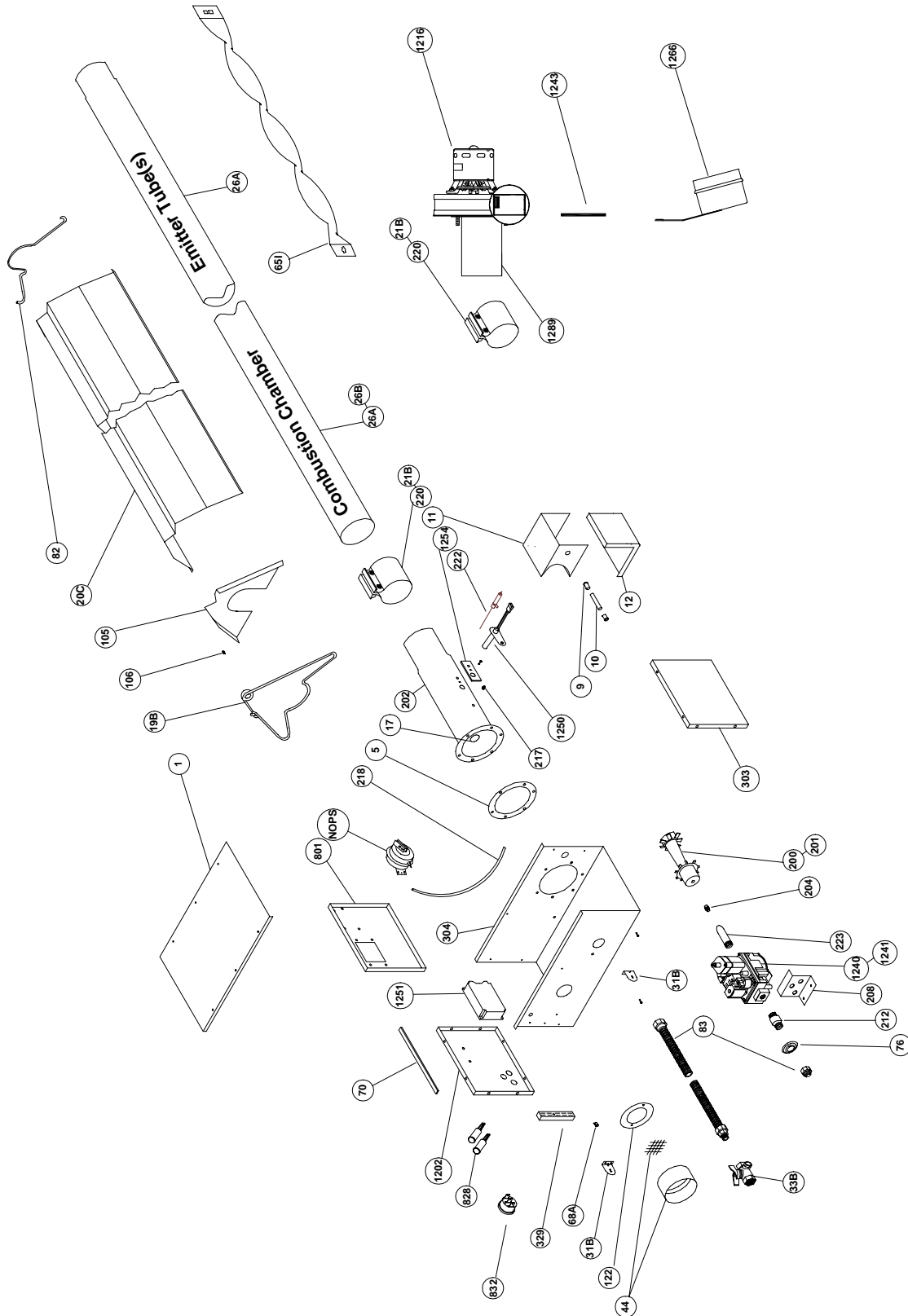
# SV Troubleshooting Flowchart





# SV Series

## Parts Breakdown





## Basic Parts List

## SV SERIES PARTS LISTING

TP#	ITEM	TP#	ITEM
TP-1	CONTROL BOX COVER	TP-218	EXHAUST PRESSURE TUBE (VINYL)
TP-5	FLANGE GASKET	TP-220	STAIN. STL. TUBE CLAMP (175 & 225 MBTU/H)
TP-9	CONDUIT COUPLING	TP-222	FLAME ROD
TP-10	CONDUIT 4" X 1/2"	TP-222A	FLAME ROD WIRE
TP-11	IGNITOR BOX	TP-223	GAS MANIFOLD
TP-12	IGNITOR BOX COVER	TP-303	RIGHT END PANEL
TP-17	SIGHT GLASS KIT	TP-304	CONTROL BOX
TP-19B	4" TUBE & REFLECTOR HANGER W/ SPRING CLIP	TP-329	1/4" NEUTRAL TERMINAL BLOCK
TP-20C	120" REFLECTOR	TP-801	CENTER PANEL
TP-21B	TUBE CLAMP	TP-828	OPERATIONAL INDICATOR LIGHTS
TP-26A	10 FT. RADIANT TUBE STRAIGHT	TP-832	THERMOSTAT TERMINAL STRIP
TP-26B	10 FT. RADIANT TUBE STRAIGHT (AL-TI)	TP-1202	SV LEFT END PANEL
TP-31B	CONTROL BOX BRACKET	TP-1216	EXHAUSTER PUMP
TP-33B	1/2" GAS COCK	TP-1240	24V GAS VALVE (NATURAL)
TP-44	AIR ORIFICE W/SCREEN - CONSULT FACTORY	TP-1241	24V GAS VALVE (PROPANE)
TP-57A	1/4" PRESSURE TUBE - CONSULT FACTORY	TP-1251	TRITON 2465H CIRCUIT BOARD
TP-65I	33" INTERLOCKING BAFFLE	TP-1243	RESTRICTOR PLATE
TP-68A	STRAIN RELIEF BUSHING	TP-1254	IGNITER GASKET
TP-70	CONTROL BOX COVER GASKET (PER FOOT)	TP-1250	24V IGNITER
TP-76	RUBBER GROMMET	TP-1266	POWER BOX ASSEMBLY
TP-82	REFLECTOR CENTER SUPPORT		Power Box Bracket
TP-83	STAINLESS STEEL FLEX CONNECTOR		Mounting Tube
TP-105	REFLECTOR END CAP		Power Box Light
TP-106	REFLECTOR CLIP		Transformer
TP-122	GASKET FOR AIR ORIFICE & AIR COLLAR		Power Cord
TP-200	BURNER (50 TO 100MBTU/H LP GAS)	TP-1289	EXHAUSTER MOUNTING TUBE
TP-201	BURNER (125 TO 225 MBTU/H NAT OR LP GAS)	TP-NOPS	NORM. OPEN DIFFERENTIAL PRESSURE SWITCHES
TP-202	16" BURNER TUBE WITH FLANGE	(TP-61B)	N.O. Differential Pressure Switch (50 TO 75MBTU/H)
TP-204	GAS ORIFICE - CONSULT FACTORY	(TP-61E)	N.O. Differential Pressure Switch (100 TO 125MBTU/H)
TP-208	"Z" MOUNTING BRACKET	(TP-1261A)	N.O. Differential Pressure Switch (150 TO 175MBTU/H)
TP-212	1/2" X 3" PIPE NIPPLE	(TP-1061A)	N.O. Differential Pressure Switch (200 TO 225MBTU/H)
TP-217	PRESSURE BARB FITTING		