



Portable Infrared Construction Heater

Installation, Operation and Maintenance Manual



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, and/or carbon monoxide poisoning.
- Only persons who can understand the following instructions should use or service this heater.
- Retain these instructions for further reference. If you need assistance or heater information such as manual, labels, etc., contact the manufacturer.



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!

This heater is **NOT** for home or recreational vehicle use. **DO NOT USE** in the home, mobile homes, RV's, campers, tents, etc.

- The heater is designed and approved for use as a **construction heater** under ANSI Z83.7. The primary purpose of construction heaters is to provide temporary heating of buildings under construction, alteration or repair and to provide temporary emergency heat. Properly used, the heater provides safe economical heating. Products of combustion are vented into the area being heated.
- We cannot anticipate every use which may be made of our heaters. **CHECK WITH YOUR LOCAL FIRE SAFETY AUTHORITY IF YOU HAVE QUESTIONS ABOUT LOCAL REGULATIONS.**
- Other standards govern the use of fuel gases and heat producing products in specific applications. Your local authority can advise you about these. The following information should be reviewed before operating the unit.

CAUTION!

- Use only a pipe joint compound that is resistant to liquefied petroleum gases.
- Do not use any portion of the heater's manifold, gas valve, pressure regulator, gas line connector, etc., as a structural support for the heater.
- Locate unit 10 ft. away from canvas, tarpaulins or similar coverings and secure such covering to prevent its ignition and interference with the heater.
- Use only hose and regulator assembly provided with the heater.
- The heater is approved for use with a DOT 20 lb. LP-gas cylinder with a 10 in. diameter base. Do not use forklift truck cylinder or liquid dispensing cylinder. Use a vapor draw type cylinder only.
- Operate on a stable, level surface.
- **DO NOT MOVE, HANDLE OR SERVICE UNIT WHILE HOT OR BURNING.** Permanent skin tissue damage can occur if contact is made with the unit while it is operating and until it cools down after it has been shut off.
- **DO NOT KNOCK OR TIP HEATER OVER WHILE IN OPERATION.**
- **Unit should be used in a well ventilated area. When used indoors or in an enclosed area, provide a positive air displacement of at least 4 cfm per 1,000 BTU/H of the heater's rated input.**
- **In no case is this radiant heater to be directed toward any LP-gas cylinder within 20 ft. The heater must be six feet from any LP-gas container except for the cylinder on which it is mounted, or on integrated container units.**
- If a gas odor is detected at any time, do not continue to operate the unit until the source of the gas odor has been located.
- **PROPANE IS VERY FLAMMABLE.** Propane gas is scented and its strong odor is readily detectable. In the event of a leak, propane will accumulate and the possibility of a fire is present. Never strike a match, create a flame or an electric spark when you smell gas. Ventilate the area thoroughly. Move heater outside. 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 heater "OFF" and consult the manufacturer, a qualified installer, or the gas supplier.
- The heater must be installed such that it is not directly exposed to water spray, rain and/or dripping water.

WARNING!

For the safe installation of this unit, the following table of clearances **MUST** be maintained.

Gas Inlet Pressure to Regulator					Clearance to Combustibles			
Model No.	BTU/H	Gas	Minimum W.C.*	Maximum PSI	Sides	Rear	Ceiling	Discharge End
P-16T	16,000	LP	12 in.	350	18 in.	18 in.	48 in.	48 in.
P-32-T	32,000	LP	12 in.	350	24 in.	18 in.	48 in.	72 in.

* For purpose of adjustment.

1 INSTALLATION

- The Detroit Radiant Products portable infrared heater contained in this carton has been assembled at the factory and is in an operable condition without the need of adjustment or further assembly. Alteration of the heater or replacement of components not specified by Detroit Radiant Products Company voids all approvals and warranties.

WARNING!

This heater must not be used with an overfilled LP-gas cylinder. Failure to light and/or buildup on the regulator are indications that the cylinder may be overfilled. Return suspected overfilled tank to supplier to have the overfill problem corrected and the hose and regulator checked for damage.

- Installation of this heater must conform with local codes or, in the absence of local codes, with the Standard for the Storage and Handling of Liquefied Petroleum Gases, ANSI/NFPA 58-1989.

Included with this unit is a UL Listed high pressure hose, a propane cylinder mounting bracket, and a UL Listed single stage tank pressure regulator with a Type 1 fitting. These components require assembly in the following manner:

1. Attach the cylinder-mounting bracket to the heater (see Figure 1 & 2). This is done by lining up the hole in the mounting bracket over the tapped hole in the side of the heater's outer casing, and securing it with the 3/8-16 thumbscrew provided. **NOTE:** Be sure to use the mounting bracket provided. This prevents heat from being directed at the mounting cylinder.
2. Connect the Type 1 fitting and pressure regulator assembly to the propane cylinder, hand tighten the nut clockwise to a positive stop. **DO NOT** use a wrench to tighten. (see Figure 2).
3. Mount the heater on the flange of the propane cylinder and tighten the 3/8-16 thumbscrew until the mounting bracket is rigid. **NOTE:** When the unit is properly mounted, the shoulder of the thumbscrew will be exterior to the cylinder's flange (see Figure 1).
4. Connect the hose assembly to the heater's safety gas valve (see Figure 2).
5. Tighten and check (soap and water) all gas connections.

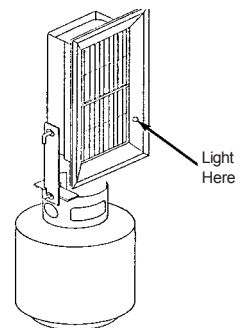


Figure 1
PROPER HEATER-TO-CYLINDER MOUNTING

2 OPERATION

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 face of the heater in the direction opposite the draft. The heater should be inspected before each use, and at least annually by a qualified service person.

NOTE: The hose assembly shall be visually inspected prior to each use of the heater. 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 UL-Listed as specified by the manufacturer (see Section 6, Spare Parts).

2.1 LIGHTING

1. Open propane cylinder valve.
2. Check all gas connections for leaks using soap and water solution. **(DO NOT USE AN OPEN FLAME).**
3. Light and place a match on ceramic burner through hole provided on side of reflector. **DO NOT LIGHT HEATER AT THE ORIFICE OR ATTEMPT TO LIGHT WITH A SPARK LIGHTER.**
4. Depress the **RED** button on the heater's safety valve. Heater should light within ten seconds.
5. Continue to depress red button for approximately one minute and then release.
6. If heater flame extinguishes, wait five minutes and repeat above lighting procedure.

2.2 SHUTDOWN

1. Close propane cylinder valve.
- If the heater is not to be used for an extended period of time, it is recommended that it be stored in its original carton or placed in a polyethylene bag, and sealed. When the heater is to be stored indoors, the connection between the LP-gas supply cylinder(s) and the heater must be disconnected and the cylinder(s) removed from the heater. Store cylinder in accordance with Chapter 5 of the Standard for the Storage and Handling of Liquefied Petroleum Gases, ANSI / NFPA 58-1989 and all applicable codes.

3 MAINTENANCE

- If a heater has not been in service for a period of time, the following procedure should be initiated before placing it back into operation.
1. Using an air hose, from 3-5 ft. away, blow off any dust or dirt that has accumulated on the heater. (Air hose pressure should not exceed 30 psi).
 2. Pass the air hose over the entire exposed area of ceramic (Vacuuming is acceptable).
 3. Place the air hose outlet into the venturi tube and allow the air to flow for approximately one minute. If the venturi tube still appears dirty, remove the orifice bracket and clean it with a brush.
 4. Clean orifice spud using a soft circular object (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 tip-over ball check obtained from the factory.
 5. Wipe the reflector clean using a soap and water solution or a non-abrasive aluminum cleaner.
 6. If a malfunction in the pressure regulator or safety shutoff control valve is found after placing the heater in operation, consult the factory or an experienced heating contractor for repair or replacement.
 7. Ensure that the flow of combustion and ventilation air is not obstructed.
 8. Keep appliance area clear and free from combustible materials, gasoline and other flammable vapors and liquids.

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

4 TROUBLESHOOTING

SYMPTOM	CAUSE	REMEDY
Heater fails to light.	Cylinder's gas valve closed. Cylinder overfilled. Excessive draft. Heater gas pressure too low. Heater safety control valve defective. Obstruction in orifice spud.	Open valve. See Warning under Section 1, Installation. Relocate or reposition heater. Verify adequate fuel supply is available. Check regulator outlet pressure, which should be 11 in. W.C. Replace. Clean or replace.
Heater lights - flame extinguishes when releasing red button on heater's control valve after depressing for 60 seconds.	Inadequate gas pressure. Insufficient fuel supply. Thermocouple defective or loose. Heater safety control valve defective.	Check gas pressure, should be 11 in. W.C. Provide adequate fuel supply. Replace or tighten connection into valve finger-tight, with an additional 1/4 turn only. Replace.
Fuel mixture burning within rayhead assembly.	Gas connection loose. Inlet pressure too high. Cracked or broken ceramic. Improper lighting.	Tighten and check for leaks. Reduce to recommended range. Replace rayhead assembly. Light ceramic burner element and not at the orifice (see Section 2.1, Lighting).
Ceramic temperature below 1700 F. (Not orange in color.)	Orifice spud misaligned. Obstruction in orifice spud. Inadequate gas pressure. Cylinder's gas valve not fully open. Kinked or obstructed gas supply lines.	Replace orifice bracket. Clean or replace. Check gas pressure, should be 11 in. W.C. Open. Straighten or clean.

NOTE: If after reviewing and/or initiating one or more of the above remedies, proper heater operating 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.

5 LIMITED WARRANTY

Heater models P-16T and P-32T are warranted by Detroit Radiant Products Company to the original user against defects in workmanship or materials under normal use for 90 days after date of purchase. The company's sole obligation under this warranty is limited to furnishing replacement parts, FOB Warren, Michigan for any parts which the company's examination discloses to its satisfaction to be defective. Defective parts are to be returned to the company, transportation charges prepaid. The company's liability for consequential and incidental damages is expressly disclaimed.

6 SPARE PARTS

PART #	DESCRIPTION	PART #	DESCRIPTION
P-101	Rayhead Assembly for Model No. P-16T 16,000 BTU/H Portable Heater (less rods).	P-112A*	Red Button Manual Safety Gas Valve - 1/8in MPT x 1/8in. FPT. (heaters prior to 10/03). Note: Mates with P-113A.
P-102	Rods for Model P-16T Heater.	P-112B	Brass Button Manual Safety Gas Valve - 1/8in MPT x 1/8in. FPT. (heaters after 10/03). Note: Mates with P-113A.
P-103	Rayhead Assembly for Model No. P-32T. 32,000 BTU/H Portable Heater (less rods).	P-113A	90° Flared Tube Fitting - 3/8 in O.D. x 1/8 in. FPT
P-104	Rods for Models No. P-32T Heater.	P-114*	Thermocouple for P-112A (heaters prior to 10/03).
P-105	Reflector Assembly for Model No. P-16T.	P-114B	Thermocouple w/ mounting nuts for P-112B.
P-106	Reflector Assembly for Model No. P-32T.	P-115*	Thermocouple Mounting Clip for P-112A & P-114.
P-107	Outer Heater Casing for Model No. P-16T.	P-118	Cylinder Mounting Bracket.
P-108	Outer Heater Casing for Model No. P-32T.	P-119	Thumbscrew with Shoulder - 3/8 in. x 16.
P-109P	Propane Orifice Spud for Model No. P-16T.	P-123A	Heater Hose Assembly - 24 in. with attached Single-Tank Pressure Regulator - 1/4 in. x 3/8" FPT with Type 1 Fitting.
P-110P	Propane Orifice Spud for Model No. P-32T.		
P-110B	Orifice Fittings.		
P-111	Heater Orifice Spud Mounting Bracket.		

* Replacement parts for heaters manufactured prior to 10/03.

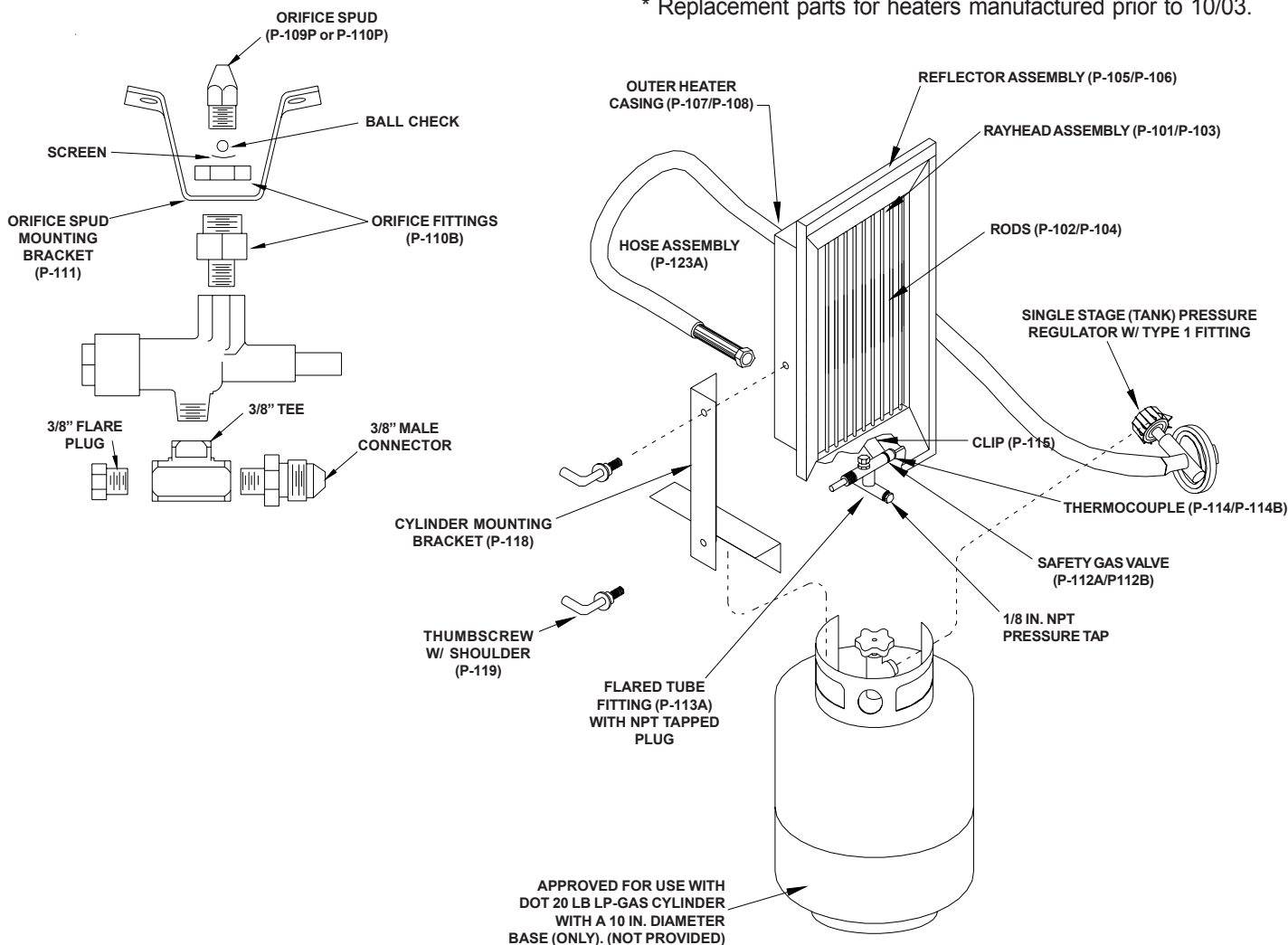


Figure 2
PORTABLE INFRARED HEATER ASSEMBLY

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