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## **HWI TK**

(Thermocouple / Hot Wire Ignition System)

*This TK uses a revolutionary electronic control module (TCI Module) combining proven thermocouple technology with reliable hot-wire ignition.*



We suggest that our gas hearth products be installed and serviced by professionals who are certified in the U.S. by the National Fireplace Institute® (NFI) as NFI Gas Specialists.

## **WARNING: FOR OUTDOOR USE ONLY**

**WARNING:** If the information in this manual is not followed, a fire or explosion may result causing property damage, personal injury, or loss of life.

Do not store gasoline or other flammable vapors and liquids in vicinity of this or any other appliance.

What to do if smell gas:

- Do not try to light appliance.
- Do not touch any electrical switch; do not use any phone in vicinity.
- Immediately call your gas supplier from your neighbor's phone. Follow gas supplier's instructions.
- If you can not reach gas supplier, call the fire department.

**INSTALLER:** Leave this manual with the appliance.  
**CONSUMER:** Retain this manual for future reference.

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## 1) General Information

Please carefully follow the instructions in this manual to prevent personal injury or property loss.  
The steps listed as:

**WARNINGS** Contains information critical to the safe installation and operation of the TK unit.

**WARRANTY REQUIREMENT** must be strictly followed to qualify for product warranty.  
**Warranty will be void if not followed.**

**IMPORTANT** Are notes and insights to help ensure product satisfaction and serviceability.

**WARNING:** REMOTE CONTROL USE: To prevent accidental start-up from unwanted RF signals it is the responsibility of the end user to turn off power to electric outlet for the remote control receiver when the TK is not in use. This should be done via wall switch or breaker.

**WARNING:** We suggest that our products be installed and serviced by professionals who are certified in the U.S. by NFI (National Fireplace Institute) or in Canada by WETT (Wood Energy Technical Training). Installer must follow all instructions carefully to ensure proper performance and safety. Hearth Products Controls Company is not responsible for your actions.

**WARNING:** It is the responsibility of the installer to follow all local and state codes concerning the installation and operation of the TK.

**WARNING:** Confirm your gas type matches the requirement for the TK- see label on Bottom of the TK.  
Gas Pressure: This should be checked prior to use and installaion:

- **Natural Gas Fire Pit:**

**Supply Pressure:** Minimum: 5.0" W.C.; **Maximum: 7.0" W.C.**

- **LP Gas:**

**Supply Pressure:** Minimum: 10.0" W.C.; **Maximum: 14.0" W.C.**

## 2) Selecting the Location

**WARNING:** The TK is designed for outdoor use only. *HEARTH PRODUCTS CONTROLS CO.* must be notified of any other use.

**WARNING:** The TK creates very high temperatures-it is very important that combustibles and people are kept at safe distances.

**WARNING:** For installation of the 24vac powered TK, it is required to install a wall switch or breaker for the TK electrical outlet away from the TK to prevent unwanted ignition of the fire pit.

**WARNING:** The TK location must accommodate a gas shut in an accessible area.

- The gas line should be a minimum of 1/2" or larger based on the number of TK's or other fire features and the distance from the energy source to the TK. Consult your local professional for proper gas line sizing.
- To enjoy your TK, select a location that allows for sufficient clearance from combustible materials.
- Choose a location that allows easy access for installation and maintenance of the TK. Make sure that trees and shrubbery are well clear around and above the TK.
- Pick a location that allows sufficient horizontal room to enjoy the TK while allowing a safe distance from the heat and flame.
- The TK is designed to be installed on a post. It is recommended that the TK flame is a minimum of 84" off the ground. This is a guideline. Installers should follow local code.
- The unit needs to be installed in a manner that ensures that pedestrian traffic cannot get closer than a 48" perimeter around the flame.
- Select a location where the TK can be attended during operation. Never leave an operating TK unattended or by someone not familiar with its operation or emergency shut off locations.
- Wooden or solid surfaces such as granite or marble must be located far enough away that they do not reach a temperature of more than 100 degrees F plus ambient air temperature.  
Example: If surrounding air temperature is 70, the wood surface temperature must stay at or below 170 degrees F.
- TK Clearance:

### TK Clearances

Sides Surrounding TK	48"
Above TK	96"

## 3) Site Preparation

**WARNING:** Ensure sufficient clearance from all combustibles and pedestrian traffic as outlined in "Selecting The Location".

**WARNING:** 24VAC, 2 amps must be supplied to the TK head and able to be switched on and off from a remote location to allow for easy access or emergency. **POWER MUST BE TURNED OFF WHEN NOT IN USE.**

**IMPORTANT:** Design site so the gas connection and 24vac electric supply are accessible after installation for maintenance.

**IMPORTANT:** If flex hose is used care must be taken not to drop the hose down the post. This can be especially problematic if the post is buried in concrete.

**IMPORTANT:** It is not recommended to mortar the post in place. This may make servicing the unit difficult. If the post will be mortared in place it may be advantageous to run solid pipe through the post to prevent accidentally dropping the flex hose down the post.

**IMPORTANT:** Determine installation method from Figure 1 or plan another method following the guidelines of this manual.

## 4) TK Installation

**WARNING:** Confirm this appliance is built for the gas used – natural gas or LP. Do not use natural gas appliance with LP or LP appliance with natural gas. Refer to label on this appliance.

**WARNING:** Always use proper materials and construction for gas supply, power, and post. Select materials that are non-combustible. .

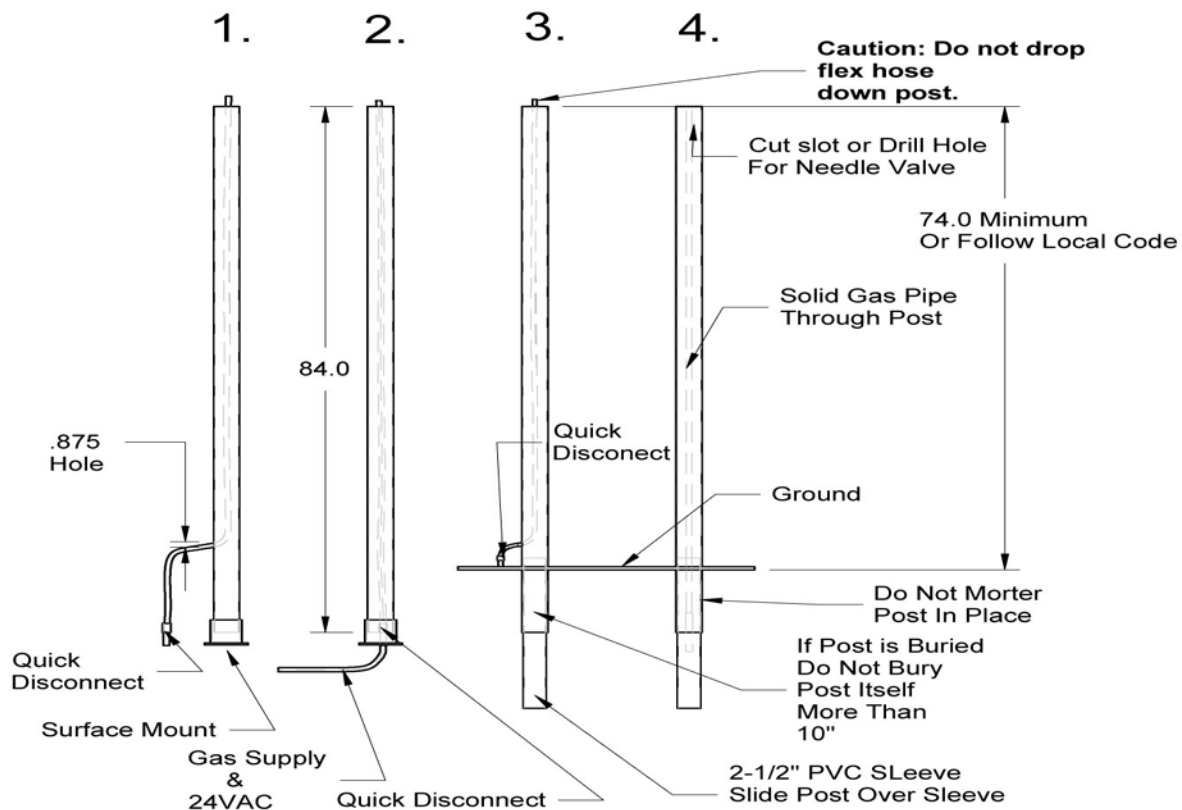
**WARRANTY REQUIREMENT:** The TK should be supported by a 3" Post of sufficient strength to support the TK head and withstand winds..

**WARRANTY REQUIREMENT:** Do not change the TK configuration in any way.

### Installation

1. Ensure gas and power to the TK location are shut off.
2. Cut a 3/8" by 2-1/4" slot in the top of the post for the needle valve stem. (Image 3&4)
3. Run Flex Hose through post (if used).
4. Run power wire through post.
5. Connect 1/4" Male end of flex hose to TK Head. Avoid sharp bends with flex hose to prevent whistling.
6. Turn on main gas supply and check all fittings in and around TK for leaks using a leak reactant, leak detector or soapy water. If leaks are found, shut off gas supply repair leaks and retest.
7. Connect 24VAC to wires from bottom of TK.
  - a. White is common, Black is positive.
8. Set post in place and secure.
9. Secure Post by chosen installation method.
  - a. For method 3 & 4 mortar the PVC sleeve in place.
    - Slide post over PVC Sleeve and back fill.
    - Allows for the post to be removed for service.
10. Ensure finished installation is sturdy.

Figure 1 - Examples of Installation Methods



## 5) TK Operation

**WARNING:** Before use test all gas connections for leaks. Do not use TK if there is any evidence of leaking gas. If leaking gas is suspected turn off the main gas supply and repair.

**WARNING:** When TK is not in operation power must be turned off via wall switch or breaker.

**WARNING:** Leaves, sticks, wood, paper, clothing, food material, should always be kept away from the TK. Make sure that there is no vegetation or other objects over the top or sides of the TK that could ignite or interfere with safe and proper operation.

**IMPORTANT:** As a safety feature if power to TK is turned “OFF” then immediately turned back “ON”, the system will go into lockout mode. To reset, turn “OFF” power then back “ON” again.

**Initial Start-up:** Several “on/off” cycles may be necessary to purge air in gas lines after system installation. TK will lockout after 15 attempts to light pilot: Please power OFF then ON to restart.

### **FIRE PIT START UP**

1. **STOP! Read the safety information on “What to Do If Smell Gas” (Pg. 1).**
2. Confirm there is no debris in TK (as mentioned in warnings).
3. Turn “ON” electrical power and gas to fire pit.
4. Using wall switch or remote, turn “ON” TK- this may take several cycles to purge any air.
5. To reset after lockout, power unit down then restart.
6. Once TK has ignited, **DO NOT** leave unattended.

#### **Sequence of Operation:**

1. The hot wire igniter will be powered (glow red) for 5 seconds before pilot valve opens.
2. The hot wire igniter will only be powered the initial 15 seconds of the 60 second pilot cycle. This sequence will repeat up to 15 times (~15 minutes) before going into lockout. To reset, turn “OFF” power then back “ON” again.
3. Pilot flame will ignite and warm thermocouple- it may take 30 seconds at times for thermocouple to get hot. If thermocouple is not hot in 60 seconds, system will shutdown then go back to Step 1.
4. Once thermocouple is hot, main valve will open allowing main burner to ignite.
5. If pilot flame is blown out at anytime, system will shutdown, then automatically restart (Step 1).

### **FIRE PIT SHUTDOWN**

1. Turn “OFF” TK using remote control or wall switch.

**IMPORTANT: REMOTE CONTROL USE: YOU MUST ALSO TURN OFF POWER TO REMOTE CONTROL SYSTEM TO PREVENT ACCIDENTAL START.**



## 6) TK Maintenance

**WARNING:** Ensure power and gas are off to TK unit prior to any cleaning or maintenance.

**IMPORTANT:** Regular Cleaning of the Top, Burner, and Kano Sleeve will reduce the amount of soot build up and extend the outward appearance of your TK.

- 1) Keep any debris out of TK clean as needed.
- 2) TK Cleaning.
  - a) Cleaning Frequency will depend on fuel type and hours burned.
  - b) Ensure power and gas are shut-off.
  - c) Allow the unit to cool.
  - d) Carefully remove the top by turning clockwise and lifting.
    - a. Be careful not to damage igniter.
  - e) Lift the Kano sleeve off.
    - a. The Kano sleeve and top can be cleaned with a soft rag, water and a mild soap.
    - b. Use a non abrasive soap to prevent scratching the Kano sleeve.
- 3) Cleaning of thermocouple: A build up of soot on the thermocouple will result in the TK shutting off frequently and possibly going into lock out.
  - f) With a small bristle brush clean the thermocouple and burner.
    - a. Be careful not to damage the igniter.

**Image 1**



**Image 2**



**Image 3**



**Image 4**



## 7) TK Troubleshooting

### TK Trouble Shooting

Below are some potential causes and countermeasures to the symptoms indicated in bold. If still unable to resolve issue, please contact your retailer or certified technician.

#### **Hot Wire Will Not Glow**

- |                             |   |
|-----------------------------|---|
| 1. No power to unit.        | Confirm breaker, wall switch, and/or remote are on.   |
| 2. Hot wire element damaged | Change hot wire element.  |
| 3. Damaged wires.           | Inspect wires to hot wire- confirm insulation is in good condition and connections are tight. |

#### **Will Not Light**

- |                          |  |
|--------------------------|--|
| 1. Air in gas line.      | If new install, may take several attempts to purge air                             |
| 2. Debris in gas line.   | Confirm gas line is clear (insulation, dirt, plastic, excessive pipe sealer etc..) |
| 3. Gas Pressure Improper | Confirm proper gas pressure found (Pg. 2)  |

#### **Will Not Stay Lite**

- |                          |   |
|--------------------------|---|
| 1. Gas Pressure Improper | Confirm proper gas pressure found (Pg. 2) |
| 2. Dirty Thermocouple    | Clean using soft brush (Pg. 6)            |

## 8) Warranty

### Limited Warranty

Hearth Products Controls Company (HPC) warranties HWI fire pits against manufacturing defects that prevent safe and correct function as follows:

●**Electronics, Gas Valve: Commercial-6mos; Residential- 1 yr.**

●**Stainless Steel/Aluminum Components: Commercial-1yr.; Residential 3yrs.**

This commences from the date of original sale / shipment from HPC FOB Dayton, Ohio.

This warranty is for parts and in-house (HPC) labor. The defective product must be sent back to HPC with a Return Merchandise Authorization (RMA) issued by HPC for that specific product and any other additional information for the nature of the defect or warranty claim.

The warranty does not cover items that have been damaged by overheating, modification, abuse, or improper storage. Also any labor involving installation or maintenance with the unit is not covered.

This warranty excludes claims for consequential, indirect-collateral expenses arising from product defects or warranty recovery.

## TK Instruction

I (**Print Name**): \_\_\_\_\_

Certified by (**Print Organization name**): \_\_\_\_\_

an employee of (**Print Name of Company**): \_\_\_\_\_

Installing the TK at the address of:

Street Address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_

Zip: \_\_\_\_\_

**Certify that I have read and understand the instructions for the installation, operation, and maintenance of the Series 940 TK manufactured by Hearth Products Controls.**

**I have had the opportunity to contact the manufacturer concerning any question I may have regarding the attached information.**

**I have also instructed the end user as to the safe operation of the unit.**

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Signature of Company Representative:** \_\_\_\_\_

**This document must be returned to Hearth Products Controls for the warranty to be in effect or technical support provided.**

**Email to:** [madkins@hearthproductscontrols.com](mailto:madkins@hearthproductscontrols.com)

**Fax 1-877-506-9803,**

**Please provide a way for us to confirm we received this document from the installer.**

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