



TJERNLUND PRODUCTS, INC.

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WHK-I INSTALLATION INSTRUCTIONS

**OWNERS INSTRUCTIONS
THESE INSTRUCTIONS MUST REMAIN
WITH EQUIPMENT
DO NOT DESTROY**

**ALWAYS FOLLOW WATER
HEATER MANUFACTURER'S
INSTRUCTIONS FOR PROPER
OPERATION OF HEATER AND
RE-LIGHTING OF PILOT**

**READ INSTRUCTIONS CAREFULLY PRIOR TO
INSTALLATION AND OPERATION OF THE WHK-I.**

TJERNLUND LIMITED ONE YEAR WARRANTY

Tjernlund Products, Inc. warrants to the original purchaser of this product that the product will be free from defects due to faulty material or workmanship for a period of one (1) year from the date of original purchase or delivery to the original purchaser, whichever is earlier. Remedies under this warranty are limited to repairing or replacing, at our option, any product which shall, within the above-stated warranty period, be returned to Tjernlund Products, Inc. at the address listed below, postage prepaid. *THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF, AND TJERNLUND PRODUCTS, INC. EXPRESSLY DISCLAIMS LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF THIS PRODUCT. THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES, AND NO AGENT IS AUTHORIZED TO ASSUME FOR US ANY LIABILITY ADDITIONAL TO THOSE SET FORTH IN THIS LIMITED WARRANTY. IMPLIED WARRANTIES ARE LIMITED TO THE STATED DURATION OF THIS LIMITED WARRANTY.*

Some states do not allow limitation on how long an implied warranty lasts, so that limitation may not apply to you. In addition, some states do not allow the exclusion or limitation of incidental or consequential damages, so that above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

Send all inquiries or products requiring warranty work to Tjernlund Products, Inc., 1601 9th Street, White Bear Lake, Minnesota 55110-6794, (651) 426-2993

EXPLANATION: The WHK-I interlock kit is designed to provide automatic Draft Inducer/Power Venter operation and appliance safety shut down when venting an Instantaneous Water Heater or Pool/Spa Heater.

IMPORTANT!

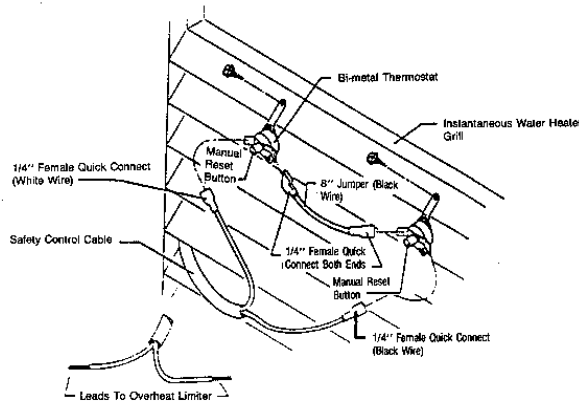
These instructions describe the installation of the WHK-I interlock kit, only. Install the Draft Inducer/Power Venter according to the instructions provided with it, excluding the electrical connections. The electrical interlock of the Draft Inducer/Power Venter is included in these instructions.

PARTS LIST

<u>DESCRIPTION</u>	<u>QUANTITY</u>	<u>REPLACEMENT PART #</u>
Bi-metal Thermostat	2	950-2075
Gas Pressure Switch	1	950-0501
1/8" Black "T" Connector	1	N/A
1/4"x1' Aluminum Bleed Tube	1	N/A
Insulated Jumper Wire 8"	1	N/A
1/8"x 8" Black Pipe	1	N/A
#6x3/8" Self Drilling SMS	2	N/A
6'x18/2 Safety Control Cable	1	N/A
1/4" Tube To 1/8" Pipe Compression Elbow	1	N/A

IN THE EVENT OF PILOT OUTAGE

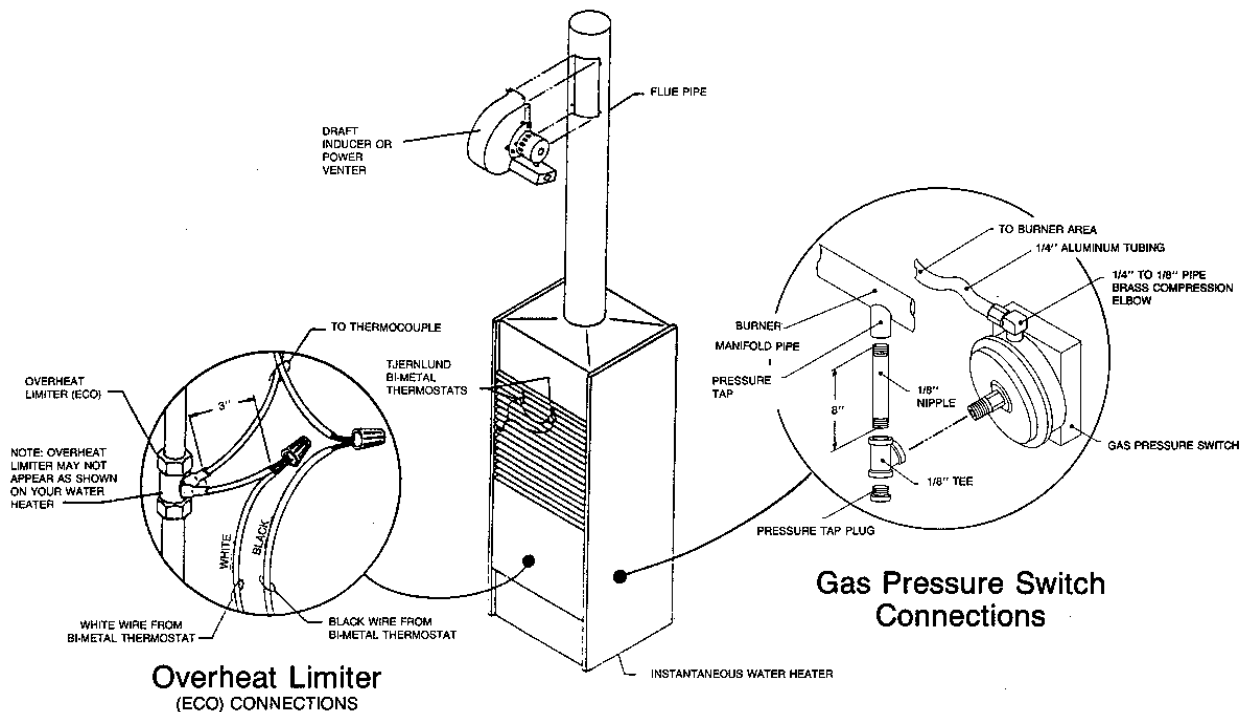
1. Push reset buttons in the center of the Bi-metal thermostats located on the front grill of instantaneous water heater.
2. Turn the gas pilot knob of the instantaneous water heater to the "OFF" position. **WARNING: Gas pilot knob MUST REMAIN IN "OFF" POSITION FOR FIVE MINUTES BEFORE PILOT IS RE-LIT.** Perform step 3 while waiting.
3. Visually verify that there is 115 volt power established to the Draft Inducer/Power Venter. (Check fuse or circuit breaker and electrical connections.)
4. Follow water heater manufacturer's re-lighting instructions attached to water heater or located in water heater owner's manual.



INSTALLATION RESTRICTIONS

1. Failure to install, maintain and/or operate this device in accordance with manufacturer's instructions may result in conditions which can produce bodily injury and property damage.
2. This device must be installed by a qualified professional installer in accordance with local codes or in their absence in accordance with the National Electrical Code and the Occupational Safety and Health Act (OSHA) when applicable.
3. "Qualified Installer" shall mean an individual properly trained and licensed.
4. Disconnect power supply when making wiring connections or when working around the Draft Inducer/Power Venter motor. Failure to do so may result in severe personal injury and equipment damage.
5. Make certain the power source is adequate for the motor requirements and all controls. Do not add a Draft Inducer/Power Venter to a circuit where the total electrical load is unknown.

INSTALLATION DIAGRAM



BI-METAL THERMOSTAT INSTALLATION

PURPOSE: To provide a means of appliance shut-down in the event of flue blockage or Draft Inducer/Power Venter failure.

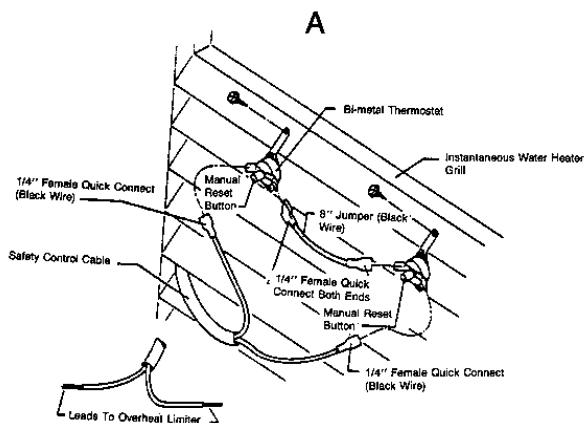
NOTES: Please refer to diagram A when installing Bi-metal Thermostats.

When installing the WHK-I on a pool/spa heater the spillage sensing switches should be wired in series with the aquastat which is factory installed by the pool/spa heater manufacturer.

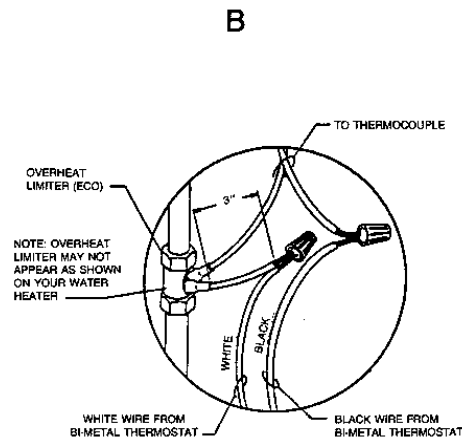
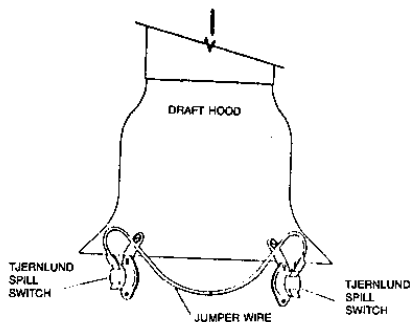
1. Install Bi-metal Thermostats on the top louver of the draft diverter or draft hood on the instantaneous water heater.
2. Attach 8" jumper to the inside terminals of the Bi-metal Thermostats.
3. Connect the ends of the Safety Control cable with the 1/4" quick connects to the outside terminals of the Bi-metal Thermostats.
4. Route the Safety Control Cable down the Instantaneous Water Heater casing, ensuring that the cable does not come in contact with any hot surfaces.

NOTE: Please refer to Diagram B when making the electrical connections of the overheat limiter (ECO)

5. Locate the overheat limiter (ECO) that is factory installed on the instantaneous water heater.
6. Cut one of the wires from ECO approximately 3 inches back from the connection on the ECO.
7. Connect the white wire from the Safety Control cable to the wire that was just cut that is still connected to the ECO.
8. Connect the black wire from the Safety Control cable to the remaining wire which is connected to the thermocouple on the water heater.



OR



Overheat Limiter (ECO) CONNECTIONS

GAS PRESSURE SWITCH INSTALLATION

PURPOSE: To sense gas flow to the burner thereby turning the Draft Inducer/Power Venter on.

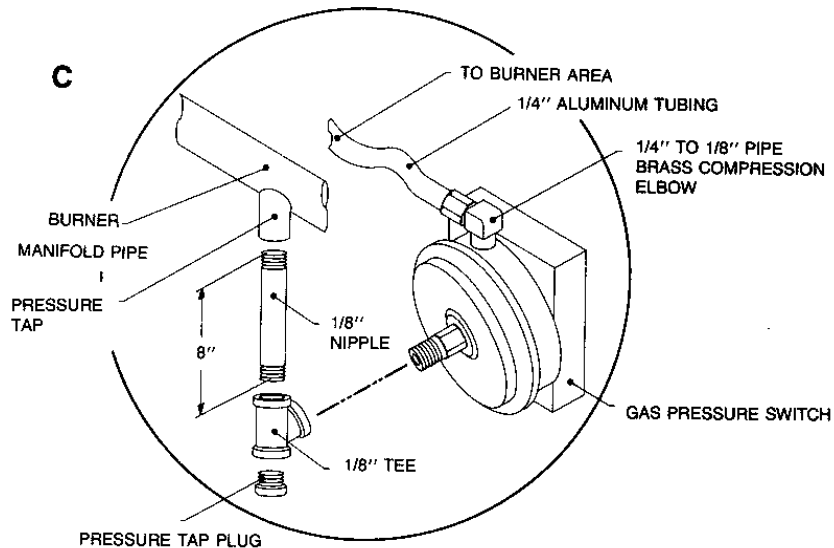
NOTES: Make sure gas supply to the water heater has been shut off before continuing.

Please refer to diagram C when installing the gas pressure switch.

Use pipe sealant when connecting threaded fittings.

When installing the gas pressure switch on a pool/spa heater the pressure tap port will *not be found on the burner assembly*. Connect the gas pressure switch to outlet pressure tap port located on the gas valve.

1. Remove and save the pressure tap plug from the pressure tap outlet located on the bottom of the burner manifold pipe. **NOTE:** On some water heaters the pressure tap is located on the front of the burner manifold.
2. Screw one end of the 1/8" x 8" black pipe into the pressure tap port where the pressure tap plug was removed.
3. Install the "T" fitting to the other end of the 1/8" x 8" pipe.
4. Install the pressure tap plug that was removed in step 1 into the bottom of the "T" fitting.
5. Screw the gas pressure switch into the remaining "T" connection.
6. Screw the 1/8" to 1/4" brass compression elbow into the side of the gas pressure switch.
7. Insert the 12" aluminum bleed tubing into the 1/4" opening of the compression elbow and tighten.
8. Terminate the other end of the aluminum bleed tubing near the main burner and pilot. Cut to proper length ensuring not to crimp the open end. **NOTE: DO NOT ALTER THE HEATER'S PILOT GAS LINE.**



Gas Pressure Switch Connections

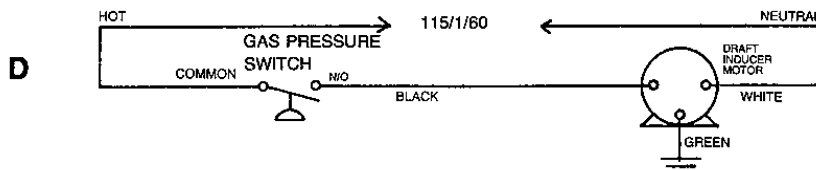
115 VOLT ELECTRICAL CONNECTIONS

NOTES: Please refer to diagram D when making the 115 Volt connections.

115 volt power supply must provide disconnect means and overload protection as required.

When interlocking the WHK-I with a Draft Inducer/Power Venter the only electrical connections are between the Gas Pressure Switch and the Draft Inducer/Power Venter motor leads. Any accessory controls such as fan provers and relays are not used in this application.

1. Connect the BLACK Draft Inducer/Power Venter motor wire to the NORMALLY OPEN terminal on the gas pressure switch.
2. Connect the 115 volt "HOT" wire of the supply voltage to the COMMON on the gas pressure switch.
3. Connect the WHITE Draft Inducer/Power Venter motor wire to the neutral of the 115 volt supply voltage.



SAFETY INTERLOCK TEST

1. Disrupt power to the Draft Inducer/Power Venter by tripping the circuit breaker.
2. Turn on hot water faucet to cause burner to fire.
RESULT: Flue spillage will occur from the draft diverter. In less than 3 minutes one or both of the Bi-metal Thermostats should open, causing the water heater to shut down.
3. Wait for 5 minutes and reset Bi-metal Thermostats on the draft diverter and relight pilot according to water heater manufacturer's instructions.
4. Establish power to the Draft Inducer/Power Venter.

ADEQUATE COMBUSTION AIR TEST

1. Close all doors and windows of the building. If the appliance is installed in a utility room or closet, close the entrance door. Close fireplace dampers.
2. Turn on clothes dryer, exhaust fans, range hoods, bathroom exhaust fans and whole house fans to maximum speed.
3. Open hot water faucet causing burner to fire.
4. Allow fans and appliance to operate for 5 minutes.
5. Tripping of the Bi-metal Thermostats during the 5 minutes indicates an unsafe operating condition. **TURN OFF FUEL SUPPLY TO APPLIANCE AND DO NOT OPERATE UNTIL UNSAFE VENTING CONDITION IS INVESTIGATED.**