

INSTALLATION GUIDE FOR HARGROVE VENTED GAS LOGS OUTDOOR HOT SURFACE IGNITION (FTHS-PO)

Installation and service must be provided by a qualified installer, service agency or the gas supplier.

FOR YOUR SAFETY WHAT TO DO IF YOU SMELL GAS

1. Open windows.
2. Extinguish all open flames.
3. Do not try to light any appliance.
4. Do not touch any electrical switch; do not use the phone in your building.
5. Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
6. If you cannot reach your gas supplier, call the fire department.

WARNING

To avoid a potential fire hazard, do not disassemble or attempt to repair the safety gas valve. Disassembly, reassembly or internal adjustment could cause the valve to malfunction, resulting in property damage, personal injury, or death. If the control valve does not operate properly following the installation or service, replace the unit.

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE LIQUIDS OR FLAMMABLE VAPORS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

CAUTIONS

1. This valve should be installed only by a qualified service technician trained in gas safety equipment.
2. Turn off the gas supply before installing the valve.
3. All piping must meet applicable local codes and ordinances and the National Fuel Gas Code (ANSI Z223.1/NFPA NO.54)
4. All wiring must meet the applicable electrical codes and ordinances.
5. Assure that the complete system is operating according to the manufacturer's instructions after installing the Parts Only Kit.
6. Prior to installation, verify conformance with the log unit's installation instructions.
7. Assure that all the piping is free of any foreign matter.

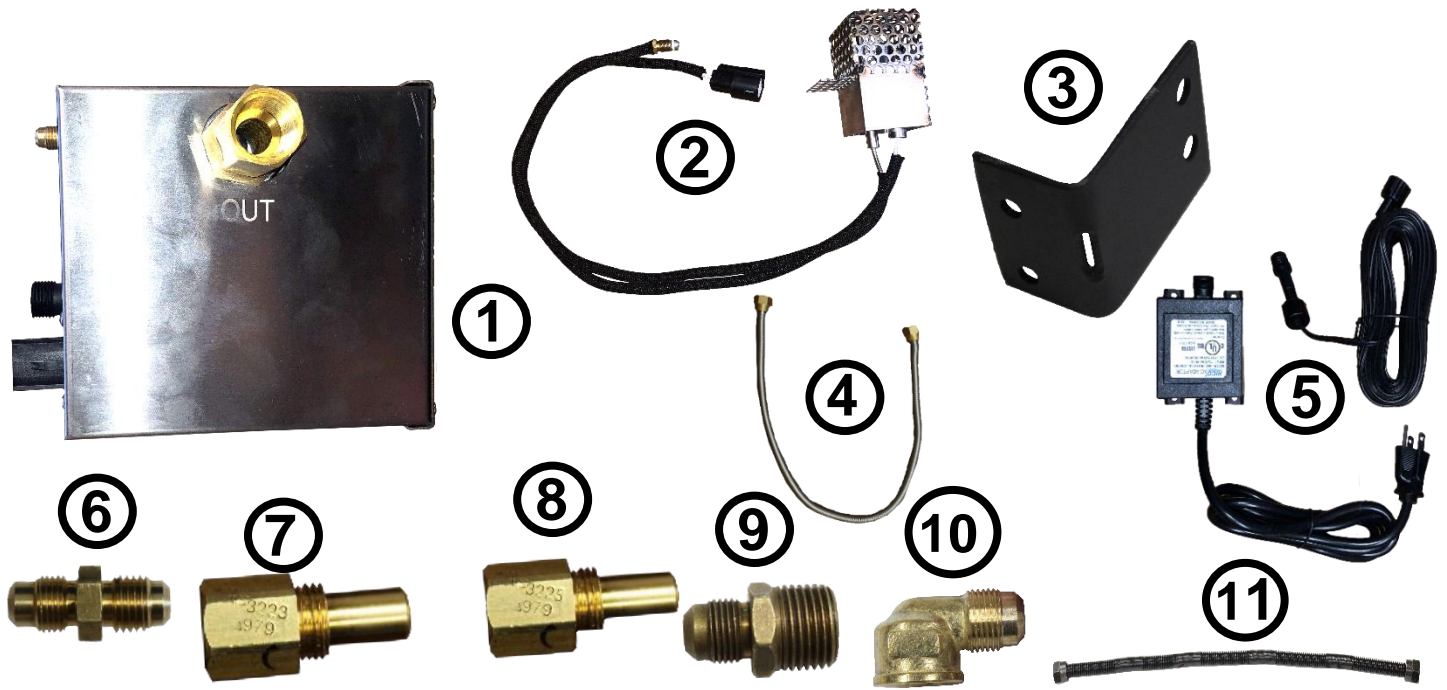
INSTALLING A HARGROVE SAFETY GAS VALVE IN A LOCATION OTHER THAN SPECIFIED IN THIS MANUAL WILL VOID THE WARRANTY EXCEPT WHEN THE SAFETY GAS VALVE IS INSTALLED OUTSIDE THE FIREBOX IN A SAFE AND PROPER INSTALLATION AND ACCESS IS PROVIDED FOR MAINTENANCE AND REPAIR OF THE SYSTEM. A QUALIFIED INSTALLER MUST MAKE INSTALLATION AND ADJUSTMENTS.

FOR YOUR SAFETY

WARNING: If you do not follow these instructions exactly, a fire or explosion may occur resulting in property damage, personal injury, or loss of life.



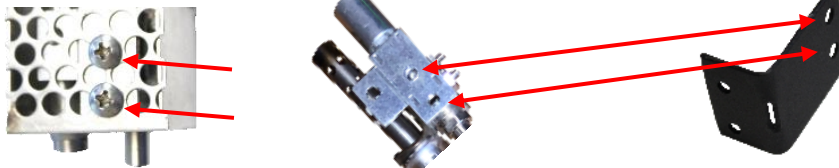
PARTS LIST



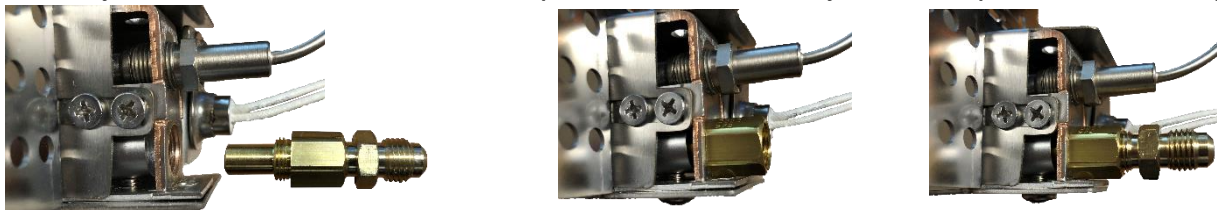
<u>ITEM</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	FTHS-V	HOT SURFACE IGNITION VALVE
2	FTHS-PIL	HOT SURFACE IGNITION PILOT
3	FTHS-PIL-BKT	PILOT BRACKET
4	FTHS-PIL-FC	PILOT FLEX CONNECTOR
5	FTHS-TRN-12V	12 VOLT TRANSFORMER & 30' CABLE
6	FTHS-PIL-ADA	PILOT INJECTOR ADAPTOR
7	FTHS-PIL-NG	NATURAL PILOT INJECTOR (3225)
8	FTHS-PIL-LP	PROPANE PILOT INJECTOR (3223)
9	48-8-6	STRAIGHT BRASS FITTING
10	50-8-8	1/2 INCH FLARED ELBOW
11	FCNW-22-8	1/2 INCH FLEX CONNECTOR

VALVE ASSEMBLY

For a standard set, take the Pilot cage off and attach the pilot to the Pilot Bracket. For a fire pit set, leave the cage on.



For a Natural Gas set, leave the NG injector in. For Propane, remove the NG injector and replace it with the LP injector. Then, take the Pilot Adaptor out of the NG injector and put it in the LP injector.

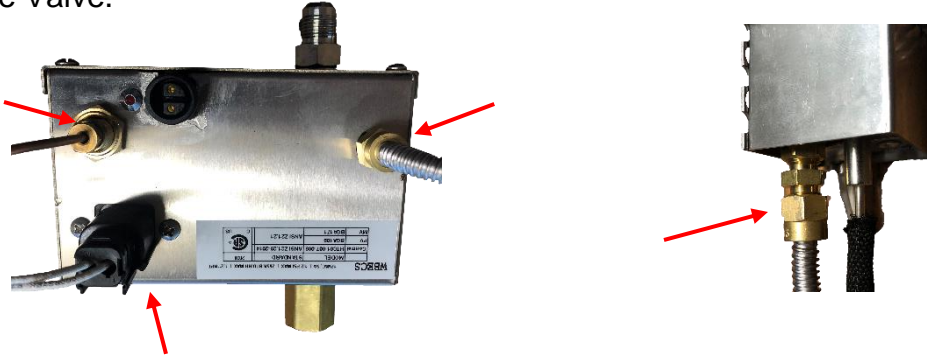


Put the 48-8-6 into the female/out side of the valve.



VALVE ASSEMBLY (CONTINUED)

Attach the Pilot's plug and thermocouple to the valve and attach the Pilot Flex Connector to the Adaptor and the Valve.



GAS CONNECTION

Check that the gas is turned off. Any remote kits should be installed on the burner at this point, refer to instructions with kit for that installation.

The gas supply line should be $\frac{1}{2}$ " inside diameter (ID) up to 30 feet and $\frac{3}{4}$ " for longer distance.

Use one of the non-whistling flex connectors provided in the accessory kit to connect the gas valve to the burner pan and install the pilot on the back of the burner pan using the 2 supplied screws. Use the other non-whistling flex connector to connect the gas valve to the gas supply.

Turn the gas supply on and check connection for leaks using a soapy solution.

NOTE- at this point install and program any remote kits, refer to the instructions provided with those kits for installation.

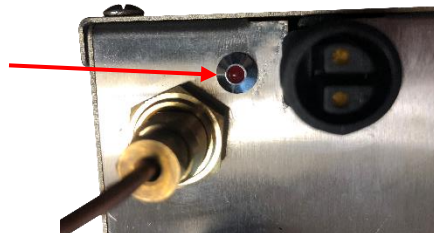


OPERATING THE VALVE

To operate the valve, simply give power to the valve and it will begin the cycle to light the pilot. To turn off the valve, turn off the power.

Plug the FTFS-TRN-12V into the wall and then use the 30-foot cable to connect the transformer to the valve.

When plugged in, the LED light should light up and stay lit until the pilot ignitor has heated up.



TROUBLESHOOTING

Sequence of Operation	Fault	Check	Result	Action(s)	
Power ON	No Function/No LED	Check for 12V at transformer	No or low voltage	Make sure transformer is powered. If so, replace transformer.	
		Check for 12V at control box	No or low voltage	Check wiring for continuity, replace if broken. Ensure wire is <50 feet long and 16AWG minimum (smaller number is bigger wire). Replace with larger wire or shorten length. Replace with correct wiring if incorrect.	
		Check fuse on HTC01 control module	Fuse OK Fuse blown	Replace control module Check wiring and replace fuse. If fuse blows again, there is a short in the wiring, igniter, gas valve or control module. Locate shorted component and replace.	
Igniter warm-up	LED on, no igniter	Check for breaks in igniter	Broken	Replace igniter.	
		Check igniter wiring and connector	Damaged or broken	Repair.	
Trial for ignition	Igniter ON, does not light. Control goes through all ignition attempts then enters 2 LED flash lockout	Is pilot valve opening?	No. Pilot gas flow	Check input gas pressure. Maximum pressure 1/2 PSI. Install regulator if higher. Check voltage to pilot valve. Voltage should read >10.2VDC. Check "No or Low Voltage" above if less. Check pilot coil for open circuit. Replace pilot valve if open.	
			Yes. Gas flow at pilot No ignition/low flame	Ensure air has been bled from gas line Consult burner manufacturer for minimum gas pressure. If natural gas, ensure pilot jet is not for LP Check pilot injector for clogged jet. Clean or replace. If pilot can be lit with a match, check igniter position and adjust, or check "No or Low Voltage" above.	
		Pilot lights but goes off at end of trial without main burner. 2 flash lockout after end of trials. Flame is not detected.	Ensure pilot flame is impinging on the thermocouple	No	Check for clogged pilot or injector and clean. Check for correct pilot injector. (LP or Nat)
		Is the thermocouple securely connected to the control box?	No Yes	Tighten connection Replace thermocouple	
Burner ON	Unit shuts down after flame detected	LED flashing 3 times, no recycle?	Yes	Maximum flame losses per heat cycle exceeded. Recycle power to reset. Ensure pilot flame is impinging on the thermocouple and is adequately sheltered from the wind. If impingement is consistent and no wind present, replace thermocouple.	
		LED flashing 4 times, no recycle? (Flame sense fault)	Yes	Turn power off for 10 seconds and back on. If persistent, replace control module	
		LED flashing 5 times, no recycle? (Valve Fault)	Yes	Turn power off for 10 seconds and back on. If persistent, check "No or Low Voltage" above. If voltage is okay, replace control module.	
		Shuts down before main burner lights	Yes	Check "No or Low Voltage" above	
		Shuts down after being on for several minutes or hours and does not relight	Yes	Over temperature - ensure control compartment remains under 175° F. If continued operation above this temperature, life of product will be reduced.	
		Unit shuts down for 1 minute every 24 hours	Yes	This is normal operation for validation of safety circuitry.	

LED DIAGNOSTIC CODES

OFF	No Power/Internal Fault
ON	Normal Operation
1 Flash	Hot start, thermocouple hot at power up
2 Flash	Trial lockout, maximum ignition trials exceeded without flame detection
3 Flash	Flame loss lockout, exceeded maximum losses of flame after proving burner on.
4 Flash	Flame sense Fault
5 Flash	Valve Fault
Fast Flash	Safety Shutdown