Residential Standing Pilot Gas Troubleshooting Guide

NATURE OF TROUBLE	POSSIBLE CAUSES	SERVICE
No Hot Water	1. Gas supply turned off	Turn on gas supply
	2. Pilot not lit	See Unable to light pilot and Pilot does not stay lit
	3. Main burner not lit	See Main burner will not stay lit
Not Enough Hot Water	1. Thermostat set too low	Adjust thermostat
	2. Burner orifice is clogged	Inspect and clean
	3. Low gas pressure	Check gas supply pressure and manifold pressure
	4. Venting downdraft (or other improper draft)	Check for proper up draft venting. Check for other drafts that could blow out the pilot light
	5. Clogged flue	Inspect and clean flue way
	6. Defective thermostat	Conduct partial draw test. Replace gas control valve
	7. Defective dip tube	Check and replace dip tube
	8. Heater is undersized	Adjust Peak Hour Demand
Unable to light pilot	1. Gas supply turned off	Turn on gas supply
	2. Gas cock knob dial not positioned correctly	Check lighting instructions. Set control knob
	3. Defective thermocouple	Check and replace thermocouple
	4. Defective safety magnet assembly	Check and replace gas valve
	5. Pilot burner orifice clogged	Clean or replace
	6. Pilot tube pinched or clogged	Clean, repair or replace
	7. Poor thermocouple connection	Check and tighten
	8. Air in gas line	Purge air from gas line
	9. Thermostat's single use ECO is tripped	Check ECO and replace gas valve
	10. Gas valve defective	Check gas valve
Pilot does not light	1. Poor thermocouple connection	Tighten connection at gas valve
	2. Thermocouple defective	Check thermocouple and replace
	3. Thermocouple not in pilot flame	Move tip of thermocouple so it is immersed in pilot flame
	4. Defective safety magnet assembly	Check magnet and replace gas valve
Pilot does not stay lit	5. Venting downdraft (or other improper draft)	Check for proper up draft venting. Check for other drafts that could blow out the pilot light
	6. Clogged flue	Inspect and clean flue way
	7. Pilot partially clogged	Inspect and clean supply tube and pilot burner
	8. Improper gas pressure	Check and adjust supply side
Main burner will not stay lit	1. Low gas pressure	Check gas supply pressure
	2. Main burner orifice clogged	Clean or replace
	3. Main burner supply tube clogged or pinched	Clean, repair or replace
	4. Defective magnet assembly	Check and replace gas control valve

	5. Defective thermocouple 6. Poor thermocouple connection 7. Defective main valve 8. Improper venting	Check and replace thermocouple Inspect and tighten Replace gas control valve Check venting for proper sizing and down drafts
Scale on burner and pilot assemblies	1. Condensation 2. Contaminated atmosphere	Excessive condensation caused by undersized heater, poor venting or continued use Check for contaminant causing chemicals near the heater
Sooting	1. Combustion air inlets or flueway is restricted 2. Not enough combustion or ventilation air supplied to room 3. Improper gas pressure 4. Burner orifice dirty	Remove obstruction or debris from heater or flueway Improve combustion air or ventilation air supply Check and adjust Inspect and clean
Yellow flame	1. Scale on top of burner 2. Burner orifice dirty 3. Flue way clogged 4. Improper gas pressure	Shut off heater; allow to cool; clean burner plate Inspect and clean Inspect and clean Check and adjust
Burner flame noisy (whistling)	1. Improper gas pressure 2. Burner orifice dirty	Check and adjust Inspect and clean
Burner flame floats	1. Improper gas pressure 2. Wrong orifice 3. Clogged flue	Check and adjust Install correct orifice Inspect and clean flue way
Burner flame too high	1. Improper gas pressure 2. Wrong orifice	Check and adjust Install correct orifice
Water too hot (followed by pilot outage)	1. Thermostat setting too high 2. Thermostat out of calibration	Adjust thermostat to lower setting Check and replace thermostat
Slow hot water recovery	1. Burner orifice clogged 2. Excessive drafts 3. Clogged flue 4. Improper gas pressure	Check and clean Locate and eliminate drafts Clean flue chamber Check and adjust
Noisy water heater (rumbling and sizzling)	1. Scale or sediment build up in bottom of tank 2. Baffles loose 3. Condensation on main burner	Clean tank Reset and tighten Inspect for condensation (normal) and tank leaks
Excessive relief valve operation	1. Excessive water pressure 2. Excessive temperature	Install proper pressure reducing valve on cold side Check for open or closed system. Install expansion tank. Check thermostat; lower setting or replace
Rusty or black water	1. Anode rod dissolved 2. Excessive sediment build-up	Check anode rod and replace Drain tank; replace tank if sediment build up is excessive
Water heater is leaking (Gas water heaters produce condensation	1. Cold in or hot out joints 2. T&P valve	Check joint and repair Check valve and replace (Caution: Do not confuse normal T&P operation as a leaking tank. If the

that may drip on the floor.	3. Immersion thermostat or anode rod is loose 4. Inner tank has a pin hole	puddle dries up, then look for a T&P problem.) Check, tighten and replace Replace water heater
Smelly water (rotten egg odor)	Bacteria formation inside water tank	Clean tank using chlorine bleach Replace anode rod if deteriorated Add automatic chlorine feeder to cold water inlet side of tank
Milky water	Aerated water	Allow a glass of hot water to set for a few minutes. If the water turns clear, the condition is a natural occurrence. See water chemistry section.