



# COMMON PROBLEMS FOR ELECTRIC MODELS

Rev. 1

CONDITION	CAUSE	REMEDY	CONDITION	CAUSE	REMEDY
Continuous operation.	Undersized heater. Elements too small.	Replace with larger heater. Replace with higher watt element. Check with utility.	Blown fuse/circuit breaker cut-out (cont'd).	Short. Undersize service wiring.	Locate short circuit and correct. Check with utility.
	Thermostat not in contact with tank. Thermostat/element installed wrong. Thermostat set too low. Improper calibration. Faulty thermostat. Faulty hi limit (ECO).	Position properly. Be sure insulation is not interfering with thermostat. Cover thermostat/element with insulation. Turn knob to desired temperature. Replace thermostat. Replace. Replace.	Element failure.	Wrong wiring connections. Loose wiring connections. Lightning.  Power surge.  Low voltage. High voltage. Short.	Correct according to manufacturer's instructions. Locate, clean carefully, reconnect properly. Inspect/replace fuse, heater elements and thermostat. Inspect/replace fuse, heater elements and thermostat. Check utility for correction. Check utility for correction. Locate short circuit and correct.
Thermostat failure.	No power. Loose wiring connection. Lightning.	Check fuses/circuit breakers, replace/reset. Locate, clean carefully, reconnect properly. Inspect/replace fuse, heater elements and thermostat.	Excessive relief valve operation.	Excessive water pressure. Surge from washer solenoid valve. Improper calibration. Faulty thermostat.	Install proper pressure reducing valve. Install blind pipe air cushion. Replace thermostat. Replace.
	Power surge.	Inspect/replace fuse, heater elements and thermostat.	Singing elements.	Lime formation on elements. Damage from electrolysis.	Clean elements, replace if necessary. Install dielectric unions or bushings.
	Low voltage. High voltage. Short .	Check utility for correction. Check utility for correction. Locate short circuit and correct.	Singing thermostats	Thermostat not flush with tank. Loose wiring connection.	Position properly. Be sure insulation covers thermostat. Locate, clean carefully, reconnect properly.
Smoking wiring.	Lightning.	Inspect/replace fuse, heater elements and thermostat.	Condensation.	Leaks around heating element. Insulation improperly replaced.	Tighten, clean and smooth face to tank flange and gasket. Adjust insulation to original factory condition.
	Power surge.	Inspect/replace fuse, heater elements and thermostat.	Drip from relief valve.	Sediment or lime in tank. Surge from washer solenoid valve. Improper calibration. Faulty thermostat.	Check to see if water treatment is necessary. Install blind pipe air cushion. Replace thermostat. Replace.
	Low voltage. High voltage. Variable voltage. Undersize service wiring.	Check utility for correction. Check utility for correction. Check utility for correction. Check with utility.	Wet insulation.	Leaking faucets/nipples. Leaks around heat trap (see plumbing). Leaks around heating elements.	Locate and correct. Remove. Apply pipe dope and reinstall. Tighten, clean and smooth face to tank flange and gasket.
	Service wires charred or hot.	Wrong wiring connections. Poor ground. Lightning.  Power surge.  High voltage. Short. Undersize service wiring.	Correct according to manufacturers instructions. Install proper ground. see grounding instructions Inspect/replace fuse, heater elements and thermostat. Inspect/replace fuse, heater elements and thermostat. Check utility for correction. Locate short circuit and correct. Check with utility.	Tank bulged, reversed heads.	No relief valve. Excessive water pressure. Surge from water solenoid valve. Check valve in water line. Pressure reducing valve installed. Faulty thermostat.
Blown fuse/circuit breaker cut-out.	No power. Wrong wiring connection. Loose wiring connection. Lightning.  Power surge.  High voltage.	Check fuses/circuit breakers, replace/reset. Correct according to manufacturers instructions. Locate, clean carefully, reconnect properly. Inspect/replace fuse, heater elements and thermostat. Inspect/replace fuse, heater elements and thermostat. Check utility for correction.			



# COMMON PROBLEMS FOR GAS MODELS

Rev. 1

CONDITION	CAUSE	REMEDY	CONDITION	CAUSE	REMEDY
Burner will not ignite.	No gas. Dirt in gas line. Pilot line clogged. Main burner line clogged. Defective thermocouple. Defective thermostat. Thermostat set too low. Heater installed in confined area.	Check with utility. Notify utility - install dirt trap in gas lines. Clean - check for source of trouble and correct. Clean - check for source of trouble and correct. Replace with new thermocouple. Replace with new thermostat. Turn temperature knob to desired temperature. Provide ventilation by use of louvers in wall or duct.	Insufficient hot water.	Low gas pressure. Orifice too small. Improper calibration. Thermostat set too low. Heater too small for job. Sediment or lime in tank. Leaking faucets. Wasted hot water. Long runs of exposed piping. Hot water piping in outside wall.	Check with utility. Replace with correct valve. Replace control valve. Turn temperature knob to desired temperature. Install adequate heater. Drain - check to see if water treatment is necessary. Repair faucets. Advise customer. Insulate.
Burner flame floats - lifts off ports.	High gas pressure. Orifice too large. Flue clogged. Heater installed in confined area. Cold drafts.	Check with utility. Replace with correct orifice. Clean - check for source of trouble and correct. Provide ventilation by use of louvers in wall or duct. Check source and correct.			
Burner flame yellow, lazy.	Insufficient secondary air. Flue clogged. Main burner line clogged. Heater installed in confined area.	Provide ventilation to heater. Clean - check for source of trouble and correct. Clean - check for source of trouble and correct. Provide ventilation by use of louvers in wall or duct.			
Burner flame too high.	Insufficient secondary air. Orifice too large. Defective thermostat.	Provide ventilation to heater. Replace with correct orifice. Replace with new thermostat.	Slow hot water recovery.	Insufficient secondary air. Low gas pressure. Orifice too small. Thermostat set too low. Sediment or lime in tank. Heater too small for job. Wrong piping connection. Wasted hot water.	Provide ventilation to heater. Check with utility. Replace with correct orifice. Turn temperature knob to desired temperature. Drain - check to see if water treatment is necessary. Install adequate heater. Correct piping - dip tube must be in cold inlet. Advise customer.
Flame burns at orifice.	Low gas pressure. Defective thermostat.	Check with utility. Replace with new thermostat.	Drip from relief valve.	Heater stacking. Excessive water pressure.	Lower thermostat setting. Use pressure reducing valve and pressure relief valve.
Pilot will not remain lit.	No gas. Dirt in gas lines. Pilot line clogged. Thermocouple connection loose. Defective thermocouple. Cold drafts.	Check with utility. Notify utility - install dirt trap in gas lines. Clean - check for source of trouble and correct. Tighten with fingers - then take ¼ turn with wrench. Replace with new thermocouple. Check source and correct.	Thermostat fails to close.	Defective thermostat. Improper calibration.	Replace with new thermostat. Replace control valve.
High operating costs.	Improper calibration. Thermostat set too high. Sediment or lime in tank.  Heater too small for job. Wrong piping connections. Leaking faucets. Gas leaks. Wasted hot water. Long runs or exposed piping. Hot water piping on outside wall.	Replace control valve. Turn temperature knob to desired temperature. Drain - check to see if water treatment is necessary. Install adequate heater. Correct piping - dip tube must be in cold inlet Repair faucets. Check with utility - repair at once. Insulate.  Insulate.	Condensation.	Heater installed in confined area	See page 12.
			Combustion odours.	Insufficient secondary air. Heater installed in confined area. Flue clogged.	Provide ventilation to heater. Provide ventilation by use of louvers in wall or duct. Clean - check for source of trouble and correct.
			Smoking and carbon formation.	Insufficient secondary air. Low gas pressure. Burner clogged with lint.	Provide ventilation to heater. Check with utility. Remove - clean.
			Sooting.	Flue clogged. Defective thermostat. Heater installed in confined area.	Clean - check for source of trouble and correct. Replace with new thermostat. Provide ventilation by use of louvers in wall or duct.
			Pilot flame too small.	Low gas pressure. Pilot line or orifice clogged. Wrong pilot burner.	Check with utility. Clean - check for source of trouble and correct. Replace.
			Pilot flame too large.	Wrong pilot burner.	Replace.
Smelly water.	Sulphides in the water.	Replace the anode with a McRay anode.			