### Residential Electric Troubleshooting Table

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<th>NATURE OF TROUBLE</th>
<th>POSSIBLE CAUSES</th>
<th>SERVICE</th>
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| No Hot Water               | 1. Manual switch turned off  
2. Blown fuse of breaker  
3. High limit switch tripped  
4. Upper Thermostat defective  
5. Upper Element Defective  
6. Grounded thermostat  
7. Thermostat out of calibration  
8. Improper wiring  
   a. Shorted or loose wiring  
   b. Undersized service wire | Turn to ON  
Replace or reset  
Manually reset ECO button  
Check and replace  
Check and replace  
Check and replace  
Check and replace  
Check and replace  
Rewire per wiring diagram |
| Not Enough Hot Water       | 1. Thermostat set too low  
2. Defective lower element  
3. Defective lower thermostat or miswired thermostat  
4. Improper wiring  
5. Loose wiring  
6. Improper heating elements  
7. Scale formation on heating elements  
8. Thermostat not flush with tank  
9. Poor grounding of tank  
10. Heater is undersized  
11. Damaged dip tube | Increase Thermostat setting not to exceed 120 degrees  
Check and replace  
Check and replace  
Rewire per wiring diagram  
Check and tighten  
Check wattage and replace  
Check elements; clean or replace  
Position thermostat so back touches the tank  
Check grounding and tighten  
Resize residence and compare  
Check and replace |
| Water too hot              | 1. Thermostat setting too high  
2. Thermostat out of calibration  
3. Thermostat not flush with tank  
4. Grounded element | Lower thermostat setting  
Check and replace  
Position thermostat so back touches the tank  
Check and replace |
| Slow hot water recovery    | 1. Heating elements too small  
2. Lower thermostats is defective | Check wattage and replace  
Check lower thermostats and replace |
| Noisy heating element      | 1. Scale build-up on elements  
2. High watt density elements in the heater | Remove, clean or replace  
Install low watt density elements |
| 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. Scale formation on elements  
2. Anode rod dissolved  
3. Excessive sediment build-up | Clean or replace elements  
Check anode rod and replace  
Try to drain tank; replace tank if sediment build up is excessive |
| Water heater is leaking | 1. Cold in or hot out joints  
2. T&P valve  
3. Heating elements and gaskets  
4. Inner tank has a pin hole | Check joint and repair  
Check valve and replace  
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. |