



TROUBLESHOOTING GUIDE

Automatic Circulating Tank Water Heater
 UG40-92TF TT-N2U (Natural Gas)
 UG40-92TF TT-P2U (Propane)

Diagnostic Codes and Remedies

⚠ WARNING

Some of the checks below should be performed by a licensed professional technician. Consumers should never attempt any action that they are not qualified to perform.

Code	Definition		Remedy
05	Air Filter Error		Follow the procedure “Air Screen Inspection, Detection & Cleaning” in the installation manual. If the error code continues to flash after cleaning the air filter, review the items in “Code 10” or contact a qualified service technician.
07	Circulation Flow Rate Has Dropped Below 2.1 gpm		Check water filter for blockage. Check pump operation and wiring. Clean Heat Exchanger.
10	Air Supply or Exhaust Blockage		Check that nothing is blocking the vent, inlet screen, or “Combustion Air Assembly”. Check all vent components for proper connections.
		Licensed professional technician only	Ensure listed 4” (10.2 cm) B-Vent is used and there are no reductions in the vent system. Check fan for blockage. Ensure vent length, vent size, and combustion air comply with the requirements stated in the National Fuel Gas Code, ANSI Z223.1/NFPA 54, or the Natural Gas and Propane Installation Code, CSA B149.1.
11	No Ignition		Check that the gas is turned on at the water heater, gas meter, or cylinder. Ensure appliance is properly grounded.
		Licensed professional technician only	Ensure gas type and pressure is correct. Ensure gas line, meter, and/or regulator is sized properly. Bleed all air from gas lines. Verify dip switches are set properly. Ensure igniter is operational. Check igniter wiring harness for damage. Check gas solenoid valves for open or short circuits. Remove burner cover and ensure all burners are properly seated. Remove burner plate and inspect burner surface for condensation or debris.
12	No Flame		Check that the gas is turned on at the water heater, gas meter, or cylinder. Check for obstructions in the flue outlet. Ensure appliance is properly grounded.
		Licensed professional technician only	Ensure gas line, meter, and/or regulator is sized properly. Ensure gas type and pressure is correct. Bleed all air from gas lines. Ensure vent length, vent size, and combustion air comply with the requirements stated in the National Fuel Gas Code, ANSI Z223.1/NFPA 54, or the Natural Gas and Propane Installation Code, CSA B149.1. Verify dip switches are set properly. Check power supply for loose connections. Check power supply for proper voltage and voltage drops. Ensure flame rod wire is connected. Check flame rod for carbon build-up. Disconnect and reconnect all wiring harnesses on unit and PC board. Check for DC shorts at components. Check gas solenoid valves for open or short circuits. Remove burner plate and inspect burner surface for condensation or debris.
13	Combustion		Review items listed under codes “05” and “10”.

⚠ WARNING

FE Flammable Vapors Detected

- **LEAVE THE AREA IMMEDIATELY**, leaving the exit point open to allow ventilation.
- **DO NOT TOUCH** any electric device (including phone or light switch).
- **CALL EMERGENCY PERSONNEL** from a neighbor’s phone.
- **DO NOT TRY** to reset the water heater or light the pilot to any other appliance.

When safety personnel have identified the area as safe and all flammable vapors have been removed and eliminated, the units can be reset by unplugging the unit then plugging back in. If “FE” continues to flash after area is determined to be free from flammable vapors, contact a qualified service technician.

In accordance with our company policy of on-going product improvement, Giant Factories Inc. reserves the right to make changes without prior notice.

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Enhancing everyday living

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UG40-92TF TT-P2U (Propane)

Code	Definition		Remedy
14	Thermal Fuse		Check for restrictions in air flow around unit and vent terminal.
		Licensed professional technician only	Check gas type of unit and ensure it matches gas type being used. Ensure dip switches are set to the proper position. Check for foreign materials in combustion chamber and/or exhaust piping. Check heat exchanger for cracks and/or separations. Check heat exchanger surface for hot spots which indicate blockage due to scale build-up. Refer to instructions in manual for flushing heat exchanger. Measure resistance of safety circuit. Ensure high fire and low fire manifold pressure is correct. Check for improper conversion of product.
16	Over-Temperature Warning (safety shutdown because unit is too hot)	Licensed professional technician only	Check for restrictions in air flow around unit and vent terminal.
30	FV Sensor		Check for foreign materials in combustion chamber and/or exhaust piping. Check for clogged heat exchanger. Check that the gas type being used if correct for your unit.
31	Burner Sensor		Check sensor wiring for damage. Measure resistance of sensor. Replace sensor.
32	Heat Exchanger Outgoing Temperature Sensor		Check sensor wiring for damage. Measure resistance of sensor. Clean sensor of scale build-up. Replace sensor.
35	Tank Temperature Sensor		Check sensor wiring for damage. Measure resistance of sensor. Verify that sensor is properly positioned on the tank surface. Replace sensor.
38	CO or FV Sensor		Check sensor wiring for damage. Measure resistance of sensor. Replace sensor.
52	Modulating Solenoid Valve Signal		Check modulating gas solenoid valve wiring harness for loose or damaged terminals. Measure resistance of valve coil.
61	Combustion Fan		Ensure fan will turn freely. Check wiring harness to motor for damaged and/or loose connections. Measure resistance of motor winding.
63	Circulation flow rate has dropped below 1.3 gpm		Check water filter for blockage. Check pump operation and wiring. Clean Heat Exchanger.
71	SV0, SV1, SV2, SV3 Solenoid Valve Circuit Fault		Check wiring harness to all solenoids for damage and/or loose connections. Measure resistance of each solenoid valve coil.
72	Flame Sensing Device	Verify if flame rod is touching flame when unit fires. Check all wiring to flame rod. Remove flame rod and check for carbon build-up; clean with sand paper. Check inside burner chamber for any foreign material blocking flame at flame rod. Measure micro amp output of sensor circuit with flame present. Replace flame rod.	
73	Burner Sensor Circuit	Check sensor wiring and PCB for damage. Replace sensor.	
No code	No hot water, no light, or error code on the display		Confirm the water heater is plugged in and 120 volts is available.

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