

IMPORTANT PARTS-SERVICE COMMUNICATION

TO: All Service and Parts Managers

DATE: March 14, 2003

NO: GF-162

SUBJECT: Need for Proper Grounding of Silicon Nitride Integrated Ignition Control Systems

We have received field complaints of premature Silicon Nitride Igniter failures (Amana Part #'s 11111701 & 11111702), which are used on our 40" 80% and 90% gas furnaces (Models GUIC/GCIC-FA/FX, GUIS/GCIS-FA/FX, GUCA/GCCA-BX, GUYA/GCVA-BX, and GUSA-BX).

Our investigation of the problem has determined that an **Improper or Inadequate Earth Ground Connection** can cause an error in the voltage regulation to the Silicon Nitride Igniter causing excessive voltage output to the Silicon Nitride Igniter resulting in premature igniter failure.

An improper or inadequate Earth ground can be detected by measuring the voltage between the "Line N" terminal and the low voltage "C" terminal on the Silicon Nitride Integrated Ignition Control. The measured voltage should be less than 2 volts.

Some furnaces will have a measured voltage between the "Line N" terminal and low voltage "C" terminal when the only fault is an inadequate or improper Earth ground. Some integrated furnace ignition controls and the ECM™ motors will place a small voltage potential on the ground circuit through the surge protection circuitry, etc. The path to ground through this circuitry is very high resistance, so a good Earth ground "will pull" this voltage down to Earth potential and prevent the premature Silicon Nitride Igniter failures.

If the voltage measured between "Line N" terminal and "C" terminal on the Silicon Nitride Integrated Ignition Control is greater than 2 volts, it will be necessary to correct the ground circuit. Note: This fault should not yield an "8 flash" lockout but will yield a high output voltage to the igniter thus shortening the igniters life. Refer to the following figure for an example of checking the voltage between the "Line N" terminal and "C" low voltage terminal on a Silicon Nitride Integrated Ignition Control.

