

IMPORTANT PARTS-SERVICE COMMUNICATION

TO: All Service and Parts Managers

DATE: July 30, 2004

NO: CAG-460

SUBJECT: PGD48 & 60C***2* Intermittent Starting Problems

The ECM™ Motors used in the PGD48C and PGD60C model package gas/electric units have experienced some starting issues and constant run issues. These are two separate issues and are related to the ECM™ motor program. The **CONSTANT RUN** issue is being addressed first and then the **NO START** issue.

CONSTANT RUN

In mid 1999, the Honeywell Smartvalve system used in Amana® brand gas/electric package equipment was replaced with the United Technologies (UTEC) DSI system. The hardware on the UTEC DSI control is such that the "R" line to the thermostat is broken under an open limit condition. With a typical ECM™ motor, breaking the thermostat "R" line will turn the motor off. This sequence of no blower operation was undesirable with an open limit condition. Initially we added an additional relay so the ECM motor would run continuously if a safety limit opened.

The motor program was later changed such that the motor operated at the heat speed anytime the thermostat "R" was removed from the motor. The result is that if the "R" line is removed for any reason (even disconnecting the 16-pin connector), the motor will run. This **DOES NOT** indicate a faulty ECM™ Motor. The date this programming change was first implemented was February 14, 2000 (serial date code 0002)

CONSTANT RUN TROUBLESHOOTING

The calls from the field state that the ECM™ motor runs constantly even if the sixteen pin is disconnected. This scenario fits the end bell programming issue described above under CONSTANT RUN issue if "R" is removed the motor is programmed to run in the heating speed. Probable solutions are to find why "R" is missing. The first step would be to check and see if any of the limits are open. If none of the limits show open and you have 24VAC at the control board terminal where the limits terminate (Pins 4&5) and you verify no 24VAC output on "R" terminal (Pin 9), then troubleshooting the main board would be the next step.

NO START

It was recently discovered that the heating delay profile programmed into the motor **MAY** cause a NO START condition in the heating mode. This was corrected by changing the pre-run portion of the delay profile from a No Run level to a 13% level. With this change, the motor will start and run at 13% of the heating airflow or the minimum programmed CFM (whichever is greater) during the ignition sequence. The motor will ramp to full speed after approximately 45 seconds after a call for heat is received. If a no-start condition described herein is encountered, the issue can be remedied with new replacement End Bell Control Module Service Kit Part # 20511007. This kit contains an End Bell Control Module with the revised program as previously described.

NO START TROUBLESHOOTING

If a NO START or intermittent start condition is observed in the heating mode, End Bell Control Module Service Kit Part # 20511007, which is an end bell control module replacement, should remedy the issue.