



TECHNICAL SERVICE BULLETIN

PARTS & SERVICE DEPARTMENT

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TO: Manufacturers' Representatives, District Sales Managers, Regional Managers, Technical & Customer Service Personnel, Service Agents, VIP Contractors, and Sales & Marketing Personnel

SUBJECT: New Knight Control for Knight KB-081 thru 801 and WB-051 thru 211

The Smart System Control on all Knight Boilers KB-081 thru 801 and WB-051 thru 211 was recently upgraded. While this upgraded control has many improvements over the previous models, there have been a few minor errors in programming algorithms discovered after production was released. While the algorithms are minor and non safety related we felt it was important that you understand the symptoms you might see and the corrective action that may be necessary.

Warm Weather Shutdown (WWSD) – The previous Knight Boiler firmware would indicate on the display when the unit is in a WWSD. The new control simply indicates STANDBY as if there is no heat call. Testing has determined there is no difference in the function of the unit for any heating calls except for the notification in the display states STANDBY instead of the previous generation notification of BLR: WWSD. No corrective action is needed and this lack of WWSD notification will be addressed in an upcoming firmware update.

Cascade Identification – The previous Knight Boiler firmware would assign a corresponding digit to the units in cascade as they are addressed in the cascade programming (example: the number 2 flashes/blinks in the Leader's cascade display screen when Member 2 is called on by the Leader). The new control has a row of eight digits to indicate up to eight units available for cascade in the Leader unit's cascade display screen. This control board will only display the numbers one (1) and zero (0) in the Leader unit's cascade display screen. The number one (1) indicates the control is communicating (can see) that specific Member unit and a zero (0) indicates no Member present for that cascade address. **Example:** The Leader's Cascade display screen reads as follows -- Cascade: 11100000 – This will indicate that the Leader, Member 1 and Member 2 are present with NO OTHER Members in cascade and if any of these ones (1) are flashing or blinking will indicate that unit has a heating call. There is no corrective action required as Cascade function is not affected. The lack of actual Leader 0, Member 1, 2, 3, 4, 5, 6 and 7 addresses being identified in the Leader's cascade display screen will be addressed in an upcoming firmware update.

Domestic Hot Water (DHW) Pump – The new Knight Control board has the option to select DHW as a Zone which will energize all three pumps, if connected to the boiler, to satisfy the DHW call for heat. When Cascade is used in conjunction with DHW, piped as a Zone, the control will **not** close the DHW pump contacts to energize the domestic circulator. The corrective action will be some other arrangement will be necessary to power the DHW pump for this circumstance. (You could use a tank t-stat to close contacts to power the pump) This loss of DHW pump contacts will be addressed in an upcoming firmware update.

“Fatal Error” in Display & Controls Locked – Currently the display allows mismatched parameters to be programmed into the Main Control Board, *Example 1*: Setting Freeze protection to fire the unit before the pump has a call to operate. The corrective action required to reset lockout is to "restore default parameters" (the Smart System software is not available, so the Main Control Board will need to be replaced). Should you experience this error replace the display board. *Example 2*: When the display is programmed for Celsius and the installer adjusts the minimum tank setpoint below the minimum limit a “fatal error” message will occur. The minimum tank setpoint “Fatal Error” has been addressed in H10 units forward.

We hope that you find this information helpful and as always if should you have any questions, please feel free to contact Lochinvar Technical Service at 1-800-722-2101.