SERVICE ADVISORY

September 19, 2000

Replacing the Genesys-VI board with an electromechanical Control Box

The Genesys-VI controller is no longer available from our supplier; thus, we have reverted to use of an electromechanical control box as an alternative.

This box provides all the necessary controls for the components and includes the following:

- Interface solid state board (641-065) for thermostat hook-up, interconnecting terminals and for ICM motor control.
- 90 Second Low Pressure Bypass delay relay(+ or - 10%)
- Malfunction relay for Remote Lockout Indication
- Low & High speed relays and Pump relay.

This Service Advisory is intended to provide instructions to replace the existing Genesys-VI control board with the electromechanical control.

THE FOLLOWING PROCEDURE SHOULD BE FOLLOWED FOR REMOVAL AND INSTALLATION OF THE "SX" ELECTRICAL BOX

1. **Turn thermostat switch to the off position.**

2. **Turn off main power to the unit and electric heat package if equipped.**

3. **Remove the thermostat-input block from the Genesys - VI board.**

- **Set aside, and out of the way to be reconnected later.**

4. **Remove the two black condensate switch leads from the Genesys - VI board. Mark these two leads as ("Cond. Sw.").**

5. **Remove the two orange low-pressure switch leads from the Genesys - VI board. Mark as ("L.P. Sw.").**

6. **Remove the two black high pressure switch leads from the Genesys - VI board. Mark as ("H.P. Sw")**

- **Pull these six wires through the round heyco fittings in the back of the electrical box. Set aside, and out of the way to be reconnected later.**

7. **Remove field wiring (L1, L2, and unit ground) from the heat pump. (L1,L2, & L3 for 3 Phase)**

- **Set aside, and out of the way to be reconnected later.**

8. **Remove the red compressor lead from "T1" at the compressor contactor. Identify this wire with a wire marker, tag, tape, label etc. as "T1."**

9. **Remove the red compressor lead from "T2" at the compressor contactor. Identify this wire as "T2."**

10. **Remove the brown compressor lead from "T3" at the compressor contactor. Identify this wire as "T4."**

11. **Remove the red compressor lead from "T7" at the compressor contactor. Identify this wire as "T3."**

12. **Remove the brown compressor lead from "T8" at the compressor contactor. Identify this wire as "T7."**

- **Pull these five wires through the round heyco fittings in the back of the electrical box. Set aside, and out of the way to be reconnected later.**

13. **Remove the two compressor black thermal sensor leads (#18 awg) from the thermal sensor ("T1" and"T2") on the Genesys - VI top interface board.**

- **Pull these two leads through the heyco fitting in the electrical box. Tag together as "S1-S2." Set aside and out of the way to be reconnected later.**

14. **Remove the two compressor crankcase heater leads from "L1 and L2" terminals on the compressor contactor.**

- **Pull these two leads through the heyco fitting in the electrical box. Tag as "C.C.HTR." Set aside, and out of the way to be reconnected later.**

15. **Remove the two black reversing valve leads (one from the "R-V" terminal, and one from the "C"**

terminal just below the "R-V" terminal) from the bottom of the Genesys - VI board.

- **Pull these two leads through the heyco fitting in the electrical box. Tag one as "O," and the other as "M1."Set aside, and out of the way to be reconnected later.**

16. Remove the three (black, white, and green) blower motor leads (the black and white from theTransformer power -terminal block), and the green from the unit grounding lug.

- **Pull these three leads through the heyco fitting in the electrical box. Tag as "Motor." Set aside, and out of the way to be reconnected later.**

17. Remove the two Heat Recovery Pump leads, one from "L1" of the power block and marked as "Hrp 1" the other from the "Com." contacts of the "Heat Recovery" relay on the Genesys - VI board mark as "Hrp 2"

- **Pull these two leads through the heyco fitting in the electrical box. Set aside, and out of the way to be reconnected later.**

18. Remove the 16 lead ICM-2 motor control harness from the AMP connector on the top interface board of the Genesys - VI board.

- **Pull through the top slotted hole of the electrical box. Set aside, and out of the way to be reconnected later.**

19. Remove the two loop or well pump motor leads, one from "L1" (mark as "Pump1") the other one from the "Com." contacts of the "Loop Pump/ Rem Valve" relay on the Genesys - VI board (mark as pump 2.

NOTE: If using a low voltage (24 Volt) solenoid valve. Remove the two leads and tag one as "Y1-Sol." and set aside, and out of the way to be reconnected later.

IF UNIT IS NOT EQUIPPED WITH ELECTRIC HEAT SKIP TO STEP # 22

20. Remove the four electric heater control wires from the bottom of the Genesys - VI board marked "R", "W3", "E", and "C", be sure to mark wire accordingly.

- **Pull these four leads through the heyco fitting in the electrical box. Set aside, and out of the way to be reconnected later.**

21. Remove the two power leads ("L1 and L2") at the electric heat pump terminal block that connects up tothe heater power supply in the electric heater control box. Tag these wires as "HTR power".

- **Pull these two leads through the heyco fitting in the electrical box. Set aside, and out of the way to be reconnected later.**

22. Now the heat pump electrical box should be ready for removal and the new one ready for installation

23. Secure the new electrical box to the sheet metal stand with two #10 sheet metal screws.

24. Connect the compressor leads to the compressor contactor marked "T1, T2, T3, T4, and T7" from steps #8 - #12 above.

25. Connect the two thermal sensor leads (from the compressor) to the compressor protection module

connections marked "S1 and S2."

26. Connect the two compressor crankcase heater leads, marked "C.C.Htr." to "L1 and L2" on the compressor contactor.

27. Connect the reversing valve leads ("M2" and "O") up as follows, the lead marked "M2" to the 1/4" piggy-back quick connect terminal "M2" on the compressor protection module, and the lead marked "O" to the "O" terminal on the interface board.

28. Connect the three blower motor leads ("motor") the black and white to the transformer power terminal block, and the green to the unit grounding lug.

29. Connect the two Heat Recovery Pump leads ("HRP1" and "HRP2") to the two black leads labeled "HRP"from the HRP relay.

30. Connect the 16 lead ICM-2 control harness to the AMP connector on the interface board.

31. Connect the two Loop or Well Pump Motor leads ("Pump1" and "Pump2") to the two yellow leads labeled"Loop Pump" from the Loop Pump relay.

NOTE: If using a low voltage (24 Volts) solenoid, connect the two leads marked ("Y1" and "C") to "Y1" and "C" terminals of the interface board.

F UNIT IS NOT EQUIPPED WITH ELECTRIC HEAT SKIP TO STEP # 34

32. Connect the four control leads from the electric heater control box ("R," "W3," "E," and "C") to the corresponding terminals ("R", "W1", "EM", and "C1") on the interface board.

33. Connect the two power ("Htr. Power") leads to the transformer power terminal block.

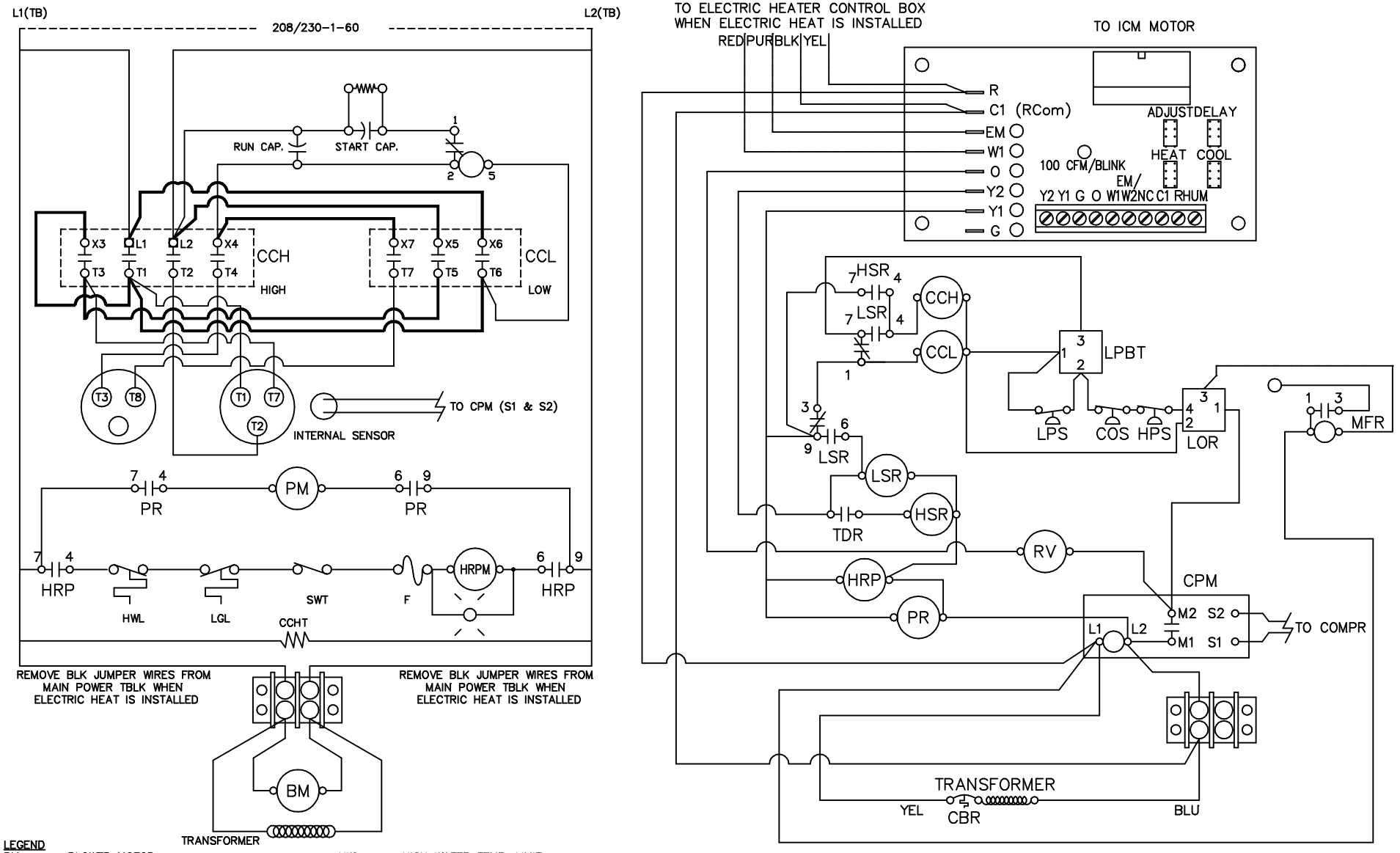
34. Reconnect the condensate flow switch ("Cond. Sw".), low pressure switch ("L.P. sw."), and high pressure switch ("H.P. Sw.") leads in the following manner:

A. Connect one lead of the condensate switch lead to terminal #4 on the lock out relay.
B. Connect the other lead to one of the leads of the high pressure switch.
C. Connect the other lead of the high pressure switch to terminal # 2 on the low pressure by-pass time delay relay.
D. Connect one lead of the low pressure switch also to terminal #2 on the low pressure by-pass time Delay relay.
E. Connect the other lead of the low pressure switch to terminal #1 on the low pressure by-pass time delay relay.

35. Reconnect the field wiring ("L1," "L2"), and the unit ground wire to unit power block.

36. Connect the thermostat to the proper terminals on the thermostat connector block of the interface board.

THE UNIT SHOULD NOW BE READY FOR POWER TO BE APPLIED



LEGEND

BM	– BLOWER MOTOR	HWL	– HIGH WATER TEMP. LIMIT
CCH	– COMPRESSOR CONTACTOR COIL, HIGH SPEED	L#(TB)	– LINE VOLTAGE CONNECTION TO TERMINAL BLOCK
CCHT	– CRANK CASE HEATER	LGL	– LOW DISCHARGE GAS TEMP. LIMIT
CCL	– COMPRESSOR CONTACTOR COIL, LOW SPEED	LOR	– LOCK–OUT RELAY
CBR	– CIRCUIT BREAKER, 24VAC	LPS	– LOW PRESSURE SWITCH
COS	– CONDENSATE OVERFLOW SWITCH	LPBT	– LOW PRESSURE BYPASS TIME DELAY
CPM	– COMPRESSOR PROTECTION MODULE	MFR	– MALFUNCTION RELAY
F	– FUSE	PM	– LOOP PUMP MOTOR (FIELD INSTALLED)
HPS	– HIGH PRESSURE SWITCH	PR	– LOOP PUMP RELAY
HRP	– HEAT RECOVERY RELAY	RV	– REVERSING VALVE
HRPM	– HEAT RECOVERY PUMP MOTOR	TDR	– TIME DELAY RELAY
HSR	– HIGH SPEED RELAY		

-☼-INDICATOR LIGHT

WIRING DIAGRAM
SX SERIES HEAT PUMPS
TWO SPEED – COMPRESSOR
SINGLE PHASE W/ FURNAS CONTACTOR

SIZE	FSCM NO.	DWG NO.	DRAWN BY	REV
	SX111000	SX111000		2

SCALE NONE DATE 2–7–03