# **SECTION 8**

# TROUBLESHOOTING GUIDES

#### WINE STORAGE DIAGNOSTIC WORKSHEET INFORMATION & INSTRUCTIONS:

The 400 Series Wine Storage Troubleshooting Guide is supplied with several copies of the Diagnostic Worksheet. The information gathered on this worksheet will assist in narrowing the search for the cause of suspected temperature problems. To fill out the worksheet, you will need to be familiar with the Diagnostic Mode and the Temperature Log Recall Mode (See section 3 of this manual).

**NOTE:** The diagnostic worksheet does not apply to temperature problems in the refrigerator section of a 427R. Go straight to the 427R Refrigerator General Troubleshooting Guide.

#### **Diagnostic Worksheet Instructions:**

Whenever servicing a 400 Series Wine Storage unit for temperature problems, follow the steps below and fill out the diagnostic worksheet before referencing the Wine Storage General Troubleshooting Guide.

- 1. Register the displayed temperatures.
  - a. If "EE" is displayed for either compartment temperature with "SERVICE" flashing, the thermistor in that compartment is disconnected or defective.
  - b. If the unit is OFF, switch unit ON and go on to step #2 below.
- 2. Register the set-points, keeping in mind that the initial key stroke will change the set-point by a one degree increment or decrement depending on your choice of WARMER key or COLDER key, respectively.
- 3. Initiate Wine Storage Diagnostic Mode by pressing and holding <u>either</u> COLDER key and the UNIT ON/OFF key, then register the temperature readings for each thermistor location.
  - a. If "EE" is displayed for any of the locations, the thermistor in that location is disconnected or defective.
- 4. Initiate Temperature Log Recall Mode by pressing and holding the desired compartment WARMER key and the UNIT ON/OFF key, then register the temperature of each index for both wine storage compartments. If "BELL ON" or "SERVICE" illuminate during an index, indicate which one by circling it on the worksheet.
  - a. By observing the temperatures logged, you should be able to notice any warming or cooling trends, whether this trend was in one or both compartments, whether there was a power interruption ("BELL ON" illuminate) and whether the unit was switched OFF ("SERVICE" illuminates).
  - b. If double dashes ("--") are displayed, the control board is defective.

**NOTE:** To see the index/time correlation, reference Temperature Log Index Chart on page 3-23 of this manual.

5. Reference the General Troubleshooting Guide with the information gathered on the worksheet.

#### WINE STORAGE DIAGNOSTIC WORKSHEET

UE (Upper Evap)	<i>LE</i> (Lower Evap)	Lower	<i>UP</i> (Upper Cmprt)	L0 (Lower Cmprt)
Diagnostic Mode Thermistor Re	adings:			
Set-Point:	Lower	Upper	3900.1	
Temperature Display:	Lower	Upper	- LOWe	

Index	Logged Temp.		Appunciator Lit	
	Lower	Upper	Annunciator Lit	
31W	38 / WO	1881	BELL ON / SERVICE	
2	ON / SE	1199	BELL ON / SERVICE	
3	32 Y WO	1.1919	BELL ON / SERVICE	
4	ON / SE	LESS ]	BELL ON / SERVICE	
5	as / wo	1188	BELL ON / SERVICE	
6	98 / WC	J.Fig.	BELL ON / SERVICE	
3.7	EAS / MC	138	BELL ON / SERVICE	
8	38 V WO	1138	BELL ON / SERVICE	
9	BB / WC	1138	BELL ON / SERVICE	
10	Be / wo	1138	BELL ON / SERVICE	
311/5	as / wo	7738	BELL ON / SERVICE	
12	B2 / WC	1198	BELL ON / SERVICE	
13	ON / SE	1138	BELL ON / SERVICE	
14	BE / MC	1198	BELL ON / SERVICE	
15	as / wc	THE	BELL ON / SERVICE	
16	BS / WO	1138	BELL ON / SERVICE	
Π	BS Y WO	THE	BELL ON / SERVICE	
18	BS / VIC	7158	BELL ON / SERVICE	
19	as / wo	LEIB -	BELL ON / SERVICE	
20	BS Y WC	158	BELL ON / SERVICE	
21	BE I WO	1138	BELL ON / SERVICE	
22	BE VVC	1298	BELL ON / SERVICE	
23	BS V MC	1138	BELL ON / SERVICE	
24	BS / NO	1.13e	BELL ON / SERVICE	
25	BS / MC	158	BELL ON / SERVICE	
26	SS / WC	1158	BELL ON / SERVICE	
27	BS / WC	TRIB [	BELL ON / SERVICE	
28	98 / NO	1138	BELL ON / SERVICE	
29	BS / NO	1138	BELL ON / SERVICE	
30	ER / WC	1138	BELL ON / SERVICE	
31	BS / WO	1138	BELL ON / SERVICE	
32	BE / WO	Juse L	BELL ON / SERVICE	

Index	Logged Temp.		A Lucian de la Lie	
	Lower	Upper	Annunciator Lit	
33	- vo	1.28 I	BELL ON / SERVICE	
34	BE L MO	1130	BELL ON / SERVICE	
35	98 / 140	1,088	BELL ON / SERVICE	
36	BS / VIC	Ligg	BELL ON / SERVICE	
37	BE VIAG	Juga	BELL ON / SERVICE	
38	82 \ W	JES	BELL ON / SERVICE	
39	39 / WO	ama T	BELL ON / SERVICE	
40	BE THO	TIBB	BELL ON / SERVICE	
41	BS / VIC	TIBB	BELL ON / SERVICE	
42	88 / 180	1.138	BELL ON / SERVICE	
43	32 \ MC	THIS	BELL ON / SERVICE	
44	be v we	3388	BELL ON / SERVICE	
45	HS / NO	133	BELL ON / SERVICE	
46	BS 1 MO	TIBB	BELL ON / SERVICE	
47	Be V ve	Tee	BELL ON / SERVICE	
48	BS / NO	LUBB	BELL ON / SERVICE	
49	BS / MC	7138	BELL ON / SERVICE	
50	38 / NO	1178	BELL ON / SERVICE	
51	BS V MO	1198	BELL ON / SERVICE	
52	BS / WO	LIBB	BELL ON / SERVICE	
53	38 Y MO	Lies	BELL ON / SERVICE	
54	BE \ WO	LUBB	BELL ON / SERVICE	
55	BE \ VIO	1.88	BELL ON / SERVICE	
56	Be I NO	1438	BELL ON / SERVICE	
57	EL MO	1198	BELL ON / SERVICE	
58	BS V NO	1138	BELL ON / SERVICE	
59	eta i- vici	1198	BELL ON / SERVICE	
60	88 7 40	138	BELL ON / SERVICE	
61	BS. V. VIO	1138	BELL ON / SERVICE	
62	38. \ MO	1138	BELL ON / SERVICE	
63	BU V NO	LUBB	BELL ON / SERVICE	
64	BS \ MO	1136	BELL ON / SERVICE	

# **Troubleshooting Guides**

### WINE STORAGE DIAGNOSTIC WORKSHEET

Temperature Display:	Lower	Upper
Set-Point:	Lower	Upper

Diagnostic Mode Thermistor Readings:

Diagnostic Mode Theirinstor Readings	).		
<i>UE</i> (Upper Evap)	_ <b>LE</b> (Lower Evap)	UP (Upper Cmprt)	LO (Lower Cmprt)

Index	Logged Temp.		umeT begood Femi	
	Lower	Upper	Annunciator Lit	
31 17	ON / SE	LUBB 4	BELL ON / SERVICE	
32 V9	BS / NO	1138	BELL ON / SERVICE	
3	BS / NO	758	BELL ON / SERVICE	
4	ON / SE	77399	BELL ON / SERVICE	
5	ON / SE	7739	BELL ON / SERVICE	
6	BS / NO	7730	BELL ON / SERVICE	
37W	BS / NO	7739	BELL ON / SERVICE	
8	BS / NO	1326	BELL ON / SERVICE	
9	ON / SE	7798	BELL ON / SERVICE	
10	ON / SE	TB8	BELL ON / SERVICE	
11	ON / SE	7736	BELL ON / SERVICE	
12	BS / NO	1338	BELL ON / SERVICE	
13	ON / SE	THE	BELL ON / SERVICE	
14	35 / NO	1338	BELL ON / SERVICE	
15	BS / WO	1198	BELL ON / SERVICE	
16	35 / NO	1138	BELL ON / SERVICE	
П	DN / SE	7138	BELL ON / SERVICE	
18	BS / NO	1138	BELL ON / SERVICE	
19	38 / NO	TH8	BELL ON / SERVICE	
20	35. / NO	138	BELL ON / SERVICE	
21	BS / NO	7138	BELL ON / SERVICE	
22	DN / SE	7738	BELL ON / SERVICE	
23	38 / MO	7199	BELL ON / SERVICE	
24	ON / SE	7198	BELL ON / SERVICE	
25	38 / WO	7138	BELL ON / SERVICE	
26	BS / NO	TIBB	BELL ON / SERVICE	
27	38 / NO	138	BELL ON / SERVICE	
28	38 / NO	1138	BELL ON / SERVICE	
29	BS / WO	TB8	BELL ON / SERVICE	
30	BS / NO	ו פבנע	BELL ON / SERVICE	
31	38 / NO	7738	BELL ON / SERVICE	
32	38 / NO	THE	BELL ON / SERVICE	

Index	Logged Temp.		Logged Toma	
	Lower	Upper	Annunciator Lit	
33	38 / V40	Nati	BELL ON / SERVICE	
34	BO V AC	LIBB I	BELL ON / SERVICE	
35	18 V AC	LIBB	BELL ON / SERVICE	
36	18 V 140	LUBB	BELL ON / SERVICE	
37	N 7 M	Liaa	BELL ON / SERVICE	
38	E TWO	7138	BELL ON / SERVICE	
39	tie vivo	1/138	BELL ON / SERVICE	
40	BB A MB	1438	BELL ON / SERVICE	
47	BS / MG	1138	BELL ON / SERVICE	
42	BB V MO	JUEN	BELL ON / SERVICE	
43	DE / NO	1138	BELL ON / SERVICE	
44	BZ / WO	1338	BELL ON / SERVICE	
45	BS / MO	JUBB	BELL ON / SERVICE	
46	BS V (80)	1188	BELL ON / SERVICE	
47	Ba V Ma	1138·	BELL ON / SERVICE	
48	BB V VAD	1138	BELL ON / SERVICE	
49	DALY SE	1138	BELL ON / SERVICE	
50	84 V M	1138	BELL ON / SERVICE	
51	BE A MU	LI38	BELL ON / SERVICE	
52	BE A MID	AUBB .	BELL ON / SERVICE	
53	EN / SE	uRa	BELL ON / SERVICE	
54	38 \ WG	TIBB	BELL ON / SERVICE	
55	\$2 \ pig	1398	BELL ON / SERVICE	
56	ON / SP	JIBB	BELL ON / SERVICE	
57	38 Y VO	1138	BELL ON / SERVICE	
58	18 V WG	1188	BELL ON / SERVICE	
59	32 \ VC	1178	BELL ON / SERVICE	
60	SA / MIS	J.138	BELL ON / SERVICE	
61	BE VIO	LIBB  -	BELL ON / SERVICE	
62	38 V 140	DES	BELL ON / SERVICE	
63	32 V Val	1496	BELL ON / SERVICE	
<i>6</i> 4	BE V MO	1138	BELL ON / SERVICE	

#### WINE STORAGE DIAGNOSTIC WORKSHEET

Temperature Display:	Lower	Upper	10900.	
Set-Point:	Lower	Upper	Lower	
iagnostic Mode Thermistor I	Readings:			

D

iagnostic Mode Thermistor Readin	gs:		
<i>UE</i> (Upper Evap)	<i>LE</i> (Lower Evap)	<i>UP</i> (Upper Cmprt)	L0 (Lower Cmprt)

Index		Temp. Upper	Annunciator Lit
31119	BS / MO	1538	BELL ON / SERVICE
2	DN / SE	AFIS	BELL ON / SERVICE
3	BS 1 WO	1138	BELL ON / SERVICE
34	ON / SE	1.138	BELL ON / SERVICE
5	BE I NO	1138	BELL ON / SERVICE
3617	BE \ NO	1138	BELL ON / SERVICE
37N9	ON / SE	1138	BELL ON / SERVICE
8	BS / WO	3.3586	BELL ON / SERVICE
9	36 / MO	1.138	BELL ON / SERVICE
10	32 / WO	ALEBO	BELL ON / SERVICE
3 11 11	38 / 40	7739	BELL ON / SERVICE
12	BS / MO	TIBS	BELL ON / SERVICE
13	BS 1 NO	THE	BELL ON / SERVICE
14	BS / WO	TREE	BELL ON / SERVICE
15	DN / SE	1788	BELL ON / SERVICE
16	DN / SE	7728	BELL ON / SERVICE
∃π\/ <sub>2</sub>	DN / SE	1,038	BELL ON / SERVICE
18	BE / MO	1138   BELL	BELL ON / SERVICE
19	ON 1 SE	THE	BELL ON / SERVICE
20	BR I NO	1138	BELL ON / SERVICE
21	BS / MO	1EBB	BELL ON / SERVICE
22	38 / WO	1.198	BELL ON / SERVICE
23	BS / NO	1,588	BELL ON / SERVICE
24	BS / NO	THE	BELL ON / SERVICE
25	BE 1 MO	7138	BELL ON / SERVICE
26	32 / 40	1198	BELL ON / SERVICE
27	DS / WO	1138	BELL ON / SERVICE
28	98 / WO	JUBB	BELL ON / SERVICE
29	38 / WO	1,638	BELL ON / SERVICE
30	as / No	1139	BELL ON / SERVICE
31	BS / WO	1199	BELL ON / SERVICE
32	BS / NO	1188	BELL ON / SERVICE

la dese	Logged Temp.		mel hencol	
Index Lo	Lower	Upper	Annunciator Lit	
33	BS A VIC	1398 ]	BELL ON / SERVICE	
34	B3 \ 740	7738	BELL ON / SERVICE	
35	BB / WC	138	BELL ON / SERVICE	
36	DE VIVE	THEFT	BELL ON / SERVICE	
37	53 \ MG	J.338	BELL ON / SERVICE	
38	BS / MC	1188	BELL ON / SERVICE	
39	38 V MC	LB8	BELL ON / SERVICE	
40	36 V MC	1138	BELL ON / SERVICE	
41	as I vo	1138	BELL ON / SERVICE	
42	ON A SE	THE	BELL ON / SERVICE	
43	DN / SE	JUBB	BELL ON / SERVICE	
44	BS / MO	1138	BELL ON / SERVICE	
45	es / wo	TIB8	BELL ON / SERVICE	
46	BS / MO	7998	BELL ON / SERVICE	
47	38 \ WO	1138 F	BELL ON / SERVICE	
48	BS / MG	2)38	BELL ON / SERVICE	
49	BLE IN INC	1138	BELL ON / SERVICE	
50	BS / NO	1138	BELL ON / SERVICE	
51	35 V NO	1158	BELL ON / SERVICE	
52	BS / NO	THE	BELL ON / SERVICE	
53	ES / NO	1198	BELL ON / SERVICE	
54	as I vio	MISSELL	BELL ON / SERVICE	
55	38 1 140	AUSIA -	BELL ON / SERVICE	
56	SS / MO	THE	BELL ON / SERVICE	
57	38 / 40	7738	BELL ON / SERVICE	
58	38 / VIO	1138	BELL ON / SERVICE	
59	BS / NO	1138	BELL ON / SERVICE	
<i>60</i>	as / yo	1139	BELL ON / SERVICE	
61	BS / NO	MELL	BELL ON / SERVICE	
62	BS / MO	THE BEIT	BELL ON / SERVICE	
63	98 Y NO	2138	BELL ON / SERVICE	
64	BB A MO	1138	BELL ON / SERVICE	

## WINE STORAGE DIAGNOSTIC WORKSHEET

Temperature Display:	Lower	Upper
Set-Point:	Lower	Upper

Dia

gnostic Mode Thermistor Readings			
UE (Upper Evap)	_ <i>LE</i> (Lower Evap)	<i>UP</i> (Upper Cmprt)	L0 (Lower Cmprt)

Index		l Temp. Upper	Annunciator Lit
31V9	BS / NO	1798	BELL ON / SERVICE
3219	ON / SE	LUBB	BELL ON / SERVICE
3	OW 7 SE	7138	BELL ON / SERVICE
3417	DN / SE	1138	BELL ON / SERVICE
35 19	OW / SE	JUBB	BELL ON / SERVICE
6	ON / SE	3336	BELL ON / SERVICE
3JN9	BS / WO	1738	BELL ON / SERVICE
8	ON / SE	AIBB	BELL ON / SERVICE
9	BS / NO	7398	BELL ON / SERVICE
10	BS / WO	1136	BELL ON / SERVICE
3 <b>11</b> M 9	ON / SE	138	BELL ON / SERVICE
12	ON / SE	1138	BELL ON / SERVICE
13	98 / NO	TIBB	BELL ON / SERVICE
14	BS / NO	3388	BELL ON / SERVICE
15	DW / SE	THE	BELL ON / SERVICE
16	98 / NO	A SELL	BELL ON / SERVICE
ЭП	38 / NO	7738	BELL ON / SERVICE
18	B2 / VO	7136	BELL ON / SERVICE
19	ON / SE	1138	BELL ON / SERVICE
20	BS / MO	7738	BELL ON / SERVICE
21	BS / WO	J.138	BELL ON / SERVICE
22	as / wo	1798	BELL ON / SERVICE
23	BS / WO	1138	BELL ON / SERVICE
24	ON / SE	TIBE	BELL ON / SERVICE
25	38 / WO	7198	BELL ON / SERVICE
26	ON / SE	THE	BELL ON / SERVICE
27	es / Mo	138	BELL ON / SERVICE
28	BS / NO	7738	BELL ON / SERVICE
29	DS / NO	1136	BELL ON / SERVICE
30	DR / NO	1.00	BELL ON / SERVICE
31\19	ON / SE	77382	BELL ON / SERVICE
32	38 / NO	TREE	BELL ON / SERVICE

Index		l Temp. Upper	Annunciator Lit
33	36 \ 100	198	BELL ON / SERVICE
34	B2 \ 140	1138	BELL ON / SERVICE
<i>3</i> 5	BS AND	LUBB	BELL ON / SERVICE
36	ES A MO	1198	BELL ON / SERVICE
37	BB A MD	1138	BELL ON / SERVICE
38	BE VING	1,139	BELL ON / SERVICE
39	38 Y-MO	Juan	BELL ON / SERVICE
40	BE VINO	JJ38	BELL ON / SERVICE
41	BE A MO	108 1	BELL ON / SERVICE
42	38 1 140	LIBG	BELL ON / SERVICE
43	SR V MO	Mara I	BELL ON / SERVICE
44	BE VINO	1138	BELL ON / SERVICE
45	BR V VIQ	1188	BELL ON / SERVICE
46	38 / MO	1138-	BELL ON / SERVICE
47	BS A VIO	uda 1	BELL ON / SERVICE
48	38 / 40	1138	BELL ON / SERVICE
49	35 - NO	1138	BELL ON / SERVICE
50	93 / MG	1138	BELL ON / SERVICE
51	38 V 140	una I	BELL ON / SERVICE
52	ge v vo	1132	BELL ON / SERVICE
53	E8 / MO	1.138	BELL ON / SERVICE
54	BE + WO	TH8	BELL ON / SERVICE
55	BS Y-MO	198	BELL ON / SERVICE
56	BS V WO	1338	BELL ON / SERVICE
57	58 Y 140	1558	BELL ON / SERVICE
58	as curb	14584	BELL ON / SERVICE
59	36 / MO	MES !	BELL ON / SERVICE
60	ae v mo	1739 4	BELL ON / SERVICE
61	38 V 40	LUBB I	BELL ON / SERVICE
62	35 /-MO	1138 ]	BELL ON / SERVICE
63	ar vivo	LIBELL	BELL ON / SERVICE
64	ON / SE	Mae I	BELL ON / SERVICE



#### **GENERAL TROUBLESHOOTING GUIDE:**

The alphabetical list below indicates how the General Troubleshooting Guide is arranged. Letters "A" through "P" pertain to the wine storage units, letters "Q through "AA" pertain to the 427R Refrigerator section only.

If servicing a 400 Series unit for temperature problems, it is recommended that a Wine Storage Diagnostic Worksheet be completed before referencing this General Troubleshooting Guide (See Page 8-2.). The information gathered on this worksheet will assist in narrowing the search for the cause of suspected temperature problems.

- **NOTE:** The diagnostic worksheet does not apply to temperature problems in the refrigerator section of a 427R. See "Q" through "BB" below.
- **NOTE:** All key strokes necessary to help in diagnosing a problem in a 400 Series unit are explained in section 3 of this manual.

Wir	Wine Storage	
Α.	Warm Temperature in Both Wine Storage Compartments	
B.	Warm Temperature in Only One Wine Storage Compartment	
C.	Product Temperature Is 10° or More Colder than Displayed Temperature	8-10
D.	Cold Temperatures in Both Wine Storage Compartments	8-10
E.	Cold Temperatures in Only One Wine Storage Compartment	8-11
F.	1. "Extremely" Cold Temperatures Displayed (3° to 18°)	8-11
	2. If Outside US - this could be "Extremely" Warm Temperatures Displayed (38° to 65°)	8-11
G.	"SERVICE" Flashing	8-11
H.	"EE" Displayed for Either Wine Storage Compartment with "SERVICE" Flashing	8-11
1.	Lights Stay on in Either Wine Storage Compartment	8-11
J.	Lights Will Not Energize in One or Both Wine Storage Compartments	8-11
K.	Control Panel Keys Inoperable or Malfunctioning	8-12
L.	LED's Do Not Illuminate	8-12
M.	All LED's Stay Illuminated	
N.	Same Segment(s) Missing from Both Display Windows	8-12
0.	Segment(s) Missing from Only One Display Windows	8-12
P.	Door / Unit Un-level	8-12
427	R Refrigerator Only	PAGE
Q.	Warm Temperature in Refrigerator Compartment	
R.	"EE" and "SERVICE" Flashing	8-14
	(NOTE: Before serial #1728753, the Drawer Location Annunciators will flash)	
S.	"EO" or "E3" and "SERVICE" Flashing	8-14
	(NOTE: Before serial #1728753, the Drawer Location Annunciators will flash)	
T.	"SERVICE" Alone Flashing	8-14
	(NOTE: Before serial #1728753, the Drawer Location Annunciators will flash)	
U.	Product Temperature in Refrigerator 10° or More Colder than Displayed Temperature	8-14
V.	Cold Temperature Displayed in Refrigerator Compartment	
W.	1. "Extremely" Cold Temperatures Displayed in Refrigerator (1° to 7°)	8-15
	2. If Outside US - this could be "Extremely" Warm Temp's Displayed in Refrig. (34° to 45°)	
X.	Lights Stay on with Drawer Closed	8-15
Y.	Lights Will Not Energize	
Z.	Control Panel Keys &/or LCD Inoperable or Malfunctioning	8-15
ΔΔ	Drawer(s) / Unit Un lovel	

PROBLEM	POSSIBLE CAUSE	TEST / ACTION
A. WARM TEMPERATURE IN	Control Set Too Warm	Check set-points. Adjust set-points COLDER
BOTH WINE STORAGE COMPARTMENTS	Unit in Showroom Mode	Adjust set-points colder and listen for compressor & condenser fan operation. If they do not run, switch unit OFF then press and hold upper compartment COLDER & WARMER keys while pressing UNIT ON/OFF key.
rigarator section of a 427R.	Unit Recently Energized	Allow time for unit to pull down
nil are explained in section 3	Unit Recently Stocked with Wine	Instruct customer
SDA9	High Room Ambient	Instruct Customer that unit performs best between 60°F / 16°C - 90°F / 32°C
8-8 9-8 01-8 01-8	Door Ajar a. Wine Rack Obstruction b. Door out of Adjustment c. Door or Cabinet Hinge Problem	<ul> <li>a. Adjust wine rack</li> <li>b. See Door Adjustment procedure in section 2 of this manual.</li> <li>c. Check hinges. Replace if defective.</li> </ul>
8-11 8-11 8-11 8-11 8-12 8-12 8-12 8-12	Condenser Air Flow / Fan Fault  a. Dirty Condenser  b. Condenser Fan Blade Loose or Obstructed  c. Fan Motor Disconnected or Malfunctioning  d. Defective or disconnected fan relay (427R after serial #1944319 Only)	<ul> <li>a. Clean condenser. Clean if needed.</li> <li>b. Check fan blade. Tighten or remove obstruction.</li> <li>c. Check fan motor operation. Check fan motor electrical connections back to compressor. Check for 115V AC from compressor to motor. Reconnect or repair wires or replace motor if defective.</li> <li>d. Check electrical connections and power at 427R condenser fan relay. Reconnect or replace relay if defective.</li> </ul>
PAGE 8-13 8-13 8-14 8-14	Evaporator Fan Circuit Fault  a. Fan Switch(es) Disconnected or Malfunctioning  b. 427 / 427R Top Hinge Cover Missing c. No Power from Control Board (Prior to serial #1944319 Only)	<ul> <li>a. Check fan switch electrical connections. Check for 115V AC to and from switch. Reconnect or replace switch if defective.</li> <li>b. Replace top hinge cover.</li> <li>c. Check for 115V AC between P5 &amp; P10 of J3 on control board. (NOTE: make sure unit is not in showroom Mode) If no power between P5 &amp; P10, replace board.</li> </ul>
8-14 8-14 8-15 8-15 8-15 8-15 8-15	Compressor Fault  a. Compressor Electricals Disconnected or Malfunctioning	a. Check integrity of compressor electricals. Check continuity back to control board. Check for 115V AC between P10 of J3 and E2 on control board. Correct wiring problems or replace compressor electricals if defective. If no power between J3
81-8 81-8	b. Compressor Inefficient  c. Compressor Locked	<ul> <li>and E2, replace control board.</li> <li>b. Check AMP draw on compressor. If high by 15% or more, replace compressor.</li> <li>c. Check AMP draw on compressor. If extremely high, replace compressor.</li> </ul>
	Sealed System Leak or Restriction	SEE SEALED SYSTEM DIAGNOSTIC INFORMATION FOLLOWING THIS GENERAL TROUBLESHOOTING GUIDE.



PROBLEM	POSSIBLE CAUSE	TEST / ACTION
B. WARM TEMPERATURE IN	Control Set Too Warm	Check set-points. Adjust set-points COLDER
ONLY ONE WINE STORAGE COMPARTMENT	Unit Recently Energized	Allow time for unit to pull down
net crossed. Check solarioid	Unit Recently Stocked with Wine	Instruct customer
Peor serions back to control (head of 155V AC petween P8 & per) or P6 & P10 (lower) of J3 on	High Room Ambient	Instruct Customer that unit performs best between 60°F / 16°C - 90°F / 32°C
of board. Correct wining proceeds a sciencial of defective. If no skywern points mentioned above, to drecks OK, but temperatures top write in Retriguiant Valve.	Door Ajar a. Wine Rack Obstruction b. Door out of Adjustment c. Door or Cabinet Hinge Problem	<ul><li>a. Adjust wine rack</li><li>b. See Door Adjustment procedure in section 2 of this manual.</li><li>c. Check hinges. Replace if defective.</li></ul>
t valve. (NOTE treatriction is try in cap tube attached to valve. is after removing valve.)  separty of compressor electricals.	Evaporator Thermistor Fault	Initiate Diagnostic Mode. If "EE" is displayed for either evap temp, check thermistor electrical connections back to control board. Correct wiring problems. If wiring is OK, verify thermistor is in correct location. Relocate if needed. Check thermistor ohms = 30,000 - 33,000 at 32°F / 0°C. Replace if defective.
regulate remains all and Chieck for 1 SV AC P10 of J3 and E2 on the control compressor all of the control compressor all of the compressor and compressor are from control board to compressor page 10 and compressor are more replace compressor. If high or more, replace compressor.	Condenser Air Flow / Fan Fault  a. Dirty Condenser  b. Condenser Fan Blade Loose or Obstructed  c. Fan Motor Disconnected or Malfunctioning  d. Defective or disconnected fan relay	<ul> <li>a. Clean condenser. Clean if needed.</li> <li>b. Check fan blade. Tighten or remove obstruction.</li> <li>c. Check fan motor operation. Check fan motor electrical connections back to compressor. Check for 115V AC from compressor to motor. Reconnect or repair wires or replace motor if defective.</li> <li>d. With a compressor running, check electri-</li> </ul>
ESHOOTING GUIDE	(427R after serial #1944319 Only)	cal connections and power at 427R con- denser fan relay. Reconnect or replace relay if defective.
histor strine = 30.000 - 33.000 at Replace if defective. If thermis- replace control board,	Evaporator Fan / Fan Circuit Fault  a. Fan Blade out of Position or Obstructed	Check fan blade position. (See section 5 of this manual.) Reposition blade or
tomer ointin. Adjust sett-points WARMER	b. Fan Motor Disconnected or Malfunctioning	remove obstructions.  b. Check fan motor operation by pressing fan switch. Check fan motor electrical connections. Also check for 115V AC to motor. Reconnect or repair wires or
tine rack is Adjustment procedure in sec- this manual Inges. Replace if defective.	<ul> <li>c. Fan Switch Disconnected or Malfunctioning</li> <li>d. No Power from Control Board (Prior to serial #1944319 Only)</li> </ul>	replace motor if defective.  c. Check fan switch electrical connections. Check for 115V AC to and from switch. Reconnect or replace switch if defective. d. Check for 115V AC between P5 & P10 of J3 on control board. (NOTE: make sure unit is not in showroom Mode) If no power
(Continued)		between P5 & P10, replace board.

	PROBLEM	POSSIBLE CAUSE	TEST / ACTION
	WARM TEMPERATURE IN ONLY ONE WINE STORAGE COMPARTMENT	Refrigerant Valve Solenoid Fault     a. Solenoid Disconnected or Malfunctioning     b. Refrigerant Valve Stuck Closed, or Restricted at Cap Tube End	<ul> <li>a. Initiate Manual Valve Activation Mode to verify operation. If inoperative, toggle to other evap temp reading to verify valve wiring is not crossed. Check solenoid electrical connections back to control board. Check for 115V AC between P8 &amp; P10 (upper) or P6 &amp; P10 (lower) of J3 on the control board. Correct wiring problems or replace solenoid if defective. If no power between points mentioned above, replace board.</li> <li>b. If solenoid checks OK, but temperatures do not drop while in Refrigerant Valve Activation Mode, replace defective or restricted valve. (NOTE: restriction is most likely in cap tube attached to valve.</li> </ul>
		Compressor Fault a. Compressor Electricals Disconnected or Malfunctioning	a. Check integrity of compressor electricals. Check electrical connections back to con-
		b. Compressor Inefficient or Locked	trol board. Replace defective electricals or repair wiring. Check for 115V AC between P10 of J3 and E2 on the control board. Correct any wiring problems or replace compressor electricals if defective. If no power from control board to compressor, replace board.  b. Check AMP draw on compressor. If high by 15% or more, replace compressor.
		Sealed System Leak or Restriction	SEE SEALED SYSTEM DIAGNOSTIC INFORMATION FOLLOWING THIS GENERAL TROUBLESHOOTING GUIDE.
C.	PRODUCT TEMPERATURE IS 10° OR MORE COLDER THAN DISPLAYED TEM- PERATURE	Compartment Thermistor Fault (Misread)	Check thermistor ohms = 30,000 - 33,000 at 32°F / 0°C. Replace if defective. If thermistors are OK, replace control board.
D.		Room Temperature Below Set-Point	Instruct Customer.
	BOTH WINE STORAGE COMPARTMENTS	Control Set Too Cold	Check set-points. Adjust set-points WARMER
to		Door Ajar a. Wine Rack Obstruction b. Door out of Adjustment c. Door or Cabinet Hinge Problem	<ul> <li>a. Adjust wine rack</li> <li>b. See Door Adjustment procedure in section 2 of this manual.</li> <li>c. Check hinges. Replace if defective.</li> </ul>

	PROBLEM	POSSIBLE CAUSE	TEST / ACTION
E.	COLD TEMPERATURES IN	Room Temperature Below Set-Point	Instruct Customer.
	ONLY ONE WINE STORAGE COMPARTMENT	Control Set Too Cold	Check set-point. Adjust set-points WARMER
		Door Ajar a. Wine Rack Obstruction b. Door out of Adjustment c. Door or Cabinet Hinge Problem	<ul> <li>a. Adjust wine rack</li> <li>b. See Door Adjustment procedure in section 2 of this manual.</li> <li>c. Check hinges. Replace if defective.</li> </ul>
	ON/OFF key historicable. Plug in correctly if		Initiate Manual Valve Activation Mode on opposite valve as that suspected. Toggle to evaporator temp readings associated with suspected valve to verify it is closed. If it's open, Check solenoid electrical connections to make sure they're not crossed. Unplug
	alest Board	um Control Bugid	solenoid to see if valve closes. If valve closes, replace solenoid. If valve does not close, replace valve.
F.	1. "EXTREMELY' COLD TEMPERATURES DIS- PLAYED (3° TO 18°)	Control Set to Display Celsius but     Customer Thought it Was     Fahrenheit	Initiate Temperature Units Selection Mode and select Fahrenheit units of measure.
	2. If outside US - this could be "EXTREMELY" WARM TEMPERATURES DISPLAYED (38° TO 65°)	If Outside US - Control Set to     Display Fahrenheit but Customer     Thought it Was Celsius	Initiate Temperature Units Selection Mode and select Celsius units of measure.
G.	"SERVICE" FLASHING	SEE PAGE 8-2 OF THIS MANUAL	SEE PAGE 8-2 OF THIS MANUAL
Н.	"EE" DISPLAYED FOR EITHER WINE STORAGE COMPARTMENT WITH "SERVICE" FLASHING	Compartment Thermistor Fault	Check thermistor electrical connections back to control board. Correct wiring problems. Check thermistor ohms = 30,000 - 33,000 at 32°F / 0°C. Replace if defective.
l.	LIGHTS STAY ON IN EITHER WINE STORAGE COMPARTMENT	Lights Switched "ON" 100%	Press & release LIGHTS ON/OFF key.
		Fan & Light Switch Wiring Crossed	Check wiring at fan & light switch, and at control board. Rewire if incorrect.
		Light Switch Malfunction	Press & release LIGHTS ON/OFF key, then depress light switch. Repeat steps. If no effect, replace switch.
J.	LIGHTS WILL NOT ENER- GIZE IN ONE OR BOTH WINE STORAGE COM- PARTMENTS	Unit in Sabbath Mode	Press & release UNIT ON/OFF key.
		Lights Burned-out	Plug in known good lights. If they work, replace defective lights.
		Light Switch Disconnected or Malfunctioning	Check light switch operation and electrical connections. Check for 115V AC to and from switch. Reconnect wires or replace switch if defective.
		No Power from Control Board	Check for 115V AC between P10 of J3 and E3 on control board. (NOTE: make sure unit is not in Sabbath Mode) If no power, replace board.

## **Troubleshooting Guides**

	PROBLEM	POSSIBLE CAUSE	TEST / ACTION
K.	CONTROL PANEL KEYS INOPERABLE OR MAL- FUNCTIONING	Control Panel Ribbon Cable Plugged in Wrong	Check control panel ribbon cable (silver area on the ribbon cable terminal should be facing away from the control board). Plug in correctly if incorrect.
	he rack r Adjustment procedure in sec- trist manual.	Control Panel or Ribbon Cable Defective (OR) No Signal Read at Control Board	SEE CONTROL PANEL TEST PROCEDURE AT BACK OF TROUBLESHOOTING GUIDE SECTION.
L.	LED's DO NOT ILLUMINATE	Unit Switched OFF	Press UNIT ON/OFF key
	in valve screation work on re as that suspected Toggle to emp readings associated with	Led Ribbon Cable Plugged in Wrong	Check LED ribbon cable. Plug in correctly if incorrect.
	aive to remy it is closed, it it is a solenald electrical connection:	No Data from Control Board	Replace Control Board
М.	ALL LED's STAY ILLUMI- NATED	Bad Data from Control Board	Replace Control Board
N.	SAME SEGMENT(S) MISS- ING FROM BOTH DISPLAY WINDOWS	Bad Data from Control Board	Replace Control Board
0.	SEGMENT(S) MISSING FROM ONLY ONE DISPLAY WINDOWS	Bad LED Board in Control Panel	Replace Control Panel Assembly
P.	DOOR / UNIT UN-LEVEL	SEE SECTION 2 OF THIS MANUAL	SEE SECTION 2 OF THIS MANUAL



PROBLEM	POSSIBLE CAUSE	TEST / ACTION
Q. WARM TEMPERATURE IN	Control Set Too Warm	Check set-points. Adjust set-points COLDER
REFRIGERATOR COM- PARTMENT	Unit Recently Energized	Allow time for unit to pull down
Troubleshooting pointer:	Unit Recently Stocked with Food	Instruct customer
After checking the first six possible problems in column 2, open drawer to energize compressor.	High Room Ambient	Instruct Customer that unit performs best between 60°F / 16°C - 90°F / 32°C
With compressor running, depress Reed switch to see if evap fan energizes, If not, see Evaporator Fan Fault.	Unit in Showroom Mode	Open drawer, adjust set-points colder & listen for compressor operation. If compressor does not energize after 5 minutes with drawer open, switch refrigerator OFF then press & hold COLDER & WARMER keys while pressing UNIT ON/OFF key.
If fan checks OK, then release switch and observe evaporator temperatures for five minutes with drawer open and compressor run- ning.	Drawer Ajar  a. Food Product Obstruction b. Drawer Not Installed Correctly c. Drawer Closer Tripped Forward	a. Move obstruction b. Reinstall drawer. c. Trip closer forward, or replace if defective.
<ol> <li>If evap temp pulls down to 15°F / -9°C, see:</li> <li>Evaporator Fan Fault (a. fan blade position)</li> <li>Sealed System Leak or Restriction</li> <li>If evap temp cannot pull down to 30°F / -1°C, see:</li> <li>Condenser Air flow / Condenser Fan Fault</li> <li>Compressor Fault</li> </ol>	Evaporator Fan Fault  a. Fan Blade out of Position or Obstructed  b. Reed Switch Disconnected or Malfunctioning  c. Fan Motor Disconnected or Malfunctioning  d. No Power from Control Board	<ul> <li>a. Check fan blade position. (See section 5 of this manual.) Reposition blade or remove obstructions.</li> <li>b. Check Reed switch operation and electrical connections. Check for 5V DC to and from switch. Reconnect wires or replace Reed switch if defective.</li> <li>c. Check fan motor operation by pressing either Reed switch. Check fan motor electrical connections. Also check for 115V AC to motor. Reconnect or repair wires or replace motor if defective.</li> <li>d. Check for 115V AC between P5 &amp; P8 on</li> </ul>
sealed system leak or restriction		control board. (NOTE: make sure unit is not in showroom Mode) If no power between P5 & P8, replace board.
op, check thermistor electrical con- ok to control board. Cencet wiring the wiring is OK, varify thermistor is callon. Relocate if needed. Replace if defective. Replace if defective. Replace if defective. If thermise replace opened board. Adjust set points WARMER.	Condenser Air Flow / Fan Fault  a. Dirty Condenser  b. Condenser Fan Blade Loose or Obstructed  c. Fan Motor Disconnected or Malfunctioning  d. Defective or disconnected fan relay (427R after serial #1944319 Only)	<ul> <li>a. Clean condenser. Clean if needed.</li> <li>b. Check fan blade. Tighten or remove obstruction.</li> <li>c. Check fan motor operation. Check fan motor electrical connections back to compressor. Check for 115V AC from compressor to motor. Reconnect or repair wires or replace motor if defective.</li> <li>d. Check electrical connections and power at 427R condenser fan relay. Reconnect or replace relay if defective.</li> </ul>
(Continued)	Compartment Thermistor Fault (Misread)	Check thermistor ohms = 30,000 - 33,000 at 32°F / 0°C. Replace if defective.

PROBLEM	POSSIBLE CAUSE	TEST / ACTION
(Continued) Q. WARM TEMPERATURE IN	Compressor Fault a. Compressor Electricals Disconnected	a. Check integrity of compressor electricals.
REFRIGERATOR COM- PARTMENT (See Pointers on previous page)	or Malfunctioning	Check electrical connections back to control board. Replace defective electricals or repair wiring. Check for 115V AC between P5 & P14 on the control board. Correct any wiring problems or replace compressor electricals if defective. If no power at between P5 & P14, replace
n, adjust sat-points colder & listen sor operation. If compressor does after 5 minutes with drawer open, enter OFF then press & hold VAARMITR keys while pressing	b. Compressor Inefficient or Locked	board. (NOTE: Compressor will not energize unless evaporator is above 40°F / 4°C.)  b. Check AMP draw on compressor. If high by 15% or more, replace compressor.
responses to the service of the serv	Sealed System Leak or Restriction	SEE SEALED SYSTEM DIAGNOSTIC INFORMATION FOLLOWING THIS GENERAL TROUBLESHOOTING GUIDE.
R. "EE" and "SERVICE" FLASHING (Before serial #1728753, the Drawer Location Annunciators will flash)	Compartment Thermistor Fault	Check electrical connections to thermistor and check thermistor ohms = 30,000 - 33,000 at 32°F / 0°C. Repair connections or replace if defective.
S. "EO" OR "E3" and "SER- VICE" FLASHING (Before serial #1728753, the Drawer Location Annunciators	Control Cable Disconnected or Faulty	Check control cable and connections between control panel and Methode connector on back duct. Reconnect, repair or replace if defective.
will flash)	Disconnected or Faulty Wiring between Back Duct and Electronic Control Board	Check wiring from Methode connector on back duct to electronic control board. Reconnect, repair or replace if defective.
motor if detective. or 115V AC between P5 & P3 on neard. (NOTE: make sure unit is	Faulty Control Panel or Electronic Control Board	If unit passes all tests above, replace control panel and electronic control board.
T. "SERVICE" ALONE FLASH- ING (Before serial #1728753, the Drawer Location Annunciators will flash)	set Fatt Blattle Least on Chaelor ed	Initiate Diagnostic Mode. If "EE" is displayed for evap temp, check thermistor electrical connections back to control board. Correct wiring problems. If wiring is OK, verify thermistor is in correct location. Relocate if needed. Check thermistor ohms = 30,000 - 33,000 at 32°F / 0°C. Replace if defective.
U. PRODUCT TEMPERATURE IN REFRIGERATOR 10° OR MORE COLDER THAN DIS- PLAYED TEMPERATURE	Compartment Thermistor Fault (Misread)	Check thermistor ohms = 30,000 - 33,000 at 32°F / 0°C. Replace if defective. If thermistors are OK, replace control board.
V. COLD TEMPERATURE DIS-	Control Set Too Cold	Check set-points. Adjust set-points WARMER
PLAYED IN REFRIGERA- TOR COMPARTMENT	Drawer Ajar  A. Food Product Obstruction  B. Drawer Not Installed Correctly  C. Drawer Closer Tripped Forward	<ul><li>a. Move obstruction</li><li>b. Reinstall drawer.</li><li>c. Trip closer forward, or replace if defective.</li></ul>



	PROBLEM	POSSIBLE CAUSE	TEST / ACTION
W.	1. "EXTREMELY' COLD TEMPERATURES DIS- PLAYED IN REFRIGERA- TOR (1° TO 7°)	Control Set to Display Celsius but     Customer Thought it Was     Fahrenheit	Initiate Temperature Units Selection Mode and select Fahrenheit units of measure.
	2. If outside US - this could be "EXTREMELY" WARM TEMPERATURES DISPLAYED IN REFRIGER- ATOR (34° TO 45°)	If Outside US - Control Set to     Display Fahrenheit but Customer     Thought it Was Celsius	Initiate Temperature Units Selection Mode and select Celsius units of measure.
X.	LIGHTS STAY ON WITH DRAWER CLOSED	Reed Switch Wiring	Check wiring between Reed switch and control board. Rewire if incorrect.
Y.		Unit in Sabbath Mode	Press & release UNIT ON/OFF key.
	lag 001 of lag 0	Lights Burned-out	Plug in known good lights. If they work, replace defective lights.
		Reed Switch Disconnected or Malfunctioning	Check Reed switch operation and electrical connections. Check for 5V DC to and from switch. Reconnect wires or replace switch if defective.
		No Power from Control Board	Check for 115V AC between P7 and P5 on control board. (NOTE: make sure unit is not in Sabbath Mode) If no power, replace board.
Z.	CONTROL PANEL KEYS &/OR LCD INOPERABLE OR MALFUNCTIONING	Control Cable Disconnected or Faulty	Check control cable and connections between control panel and Methode connector on back duct. Reconnect, repair or replace if defective.
		Disconnected or Faulty Wiring between Back Duct and Electronic Control Board	Check wiring from Methode connector on back duct to electronic control board. Reconnect, repair or replace if defective.
		Faulty Control Panel or Electronic Control Board	If unit passes all tests above, replace control panel and electronic control board.
AA	A. DRAWER(S) / UNIT UN- LEVEL	SEE SECTION 2 OF THIS MANUAL	SEE SECTION 2 OF THIS MANUAL

#### SEALED SYSTEM DIAGNOSTIC INFORMATION:

Before troubleshooting the sealed system with the information below, see pages 8-2 through 8-15 in this manual.

**NOTE:** Whenever entering the sealed system, always use solder-in process valves. Do NOT use bolt-on process valves as they are prone to leak.

NOTE: Whenever servicing the sealed system, the high-side filter-drier must be replaced.

NORMAL OPERATING PRESSURES			
Model	Normal Low Side Pressures	Normal High Side Pressures	
424	8 psi to 38 psi	90 psi to 100 psi	
427	8 psi to 38 psi	90 psi to 100 psi	
427R - Wine Storage	8 psi to 38 psi	90 psi to 100 psi	
427R - Refrigerator	10 psi to 40 psi	90 psi to 100 psi	
430	8 psi to 38 psi	90 psi to 100 psi	

PRESSURE INDICATIONS			
If low side pressure is	& high side pressure is	possible problem is	
NORMAL	NORMAL	MECHANICAL (see General Troubleshooting Guide,	
LOW	LOW	LEAK	
LOW	HIGH	RESTRICTION	
HIGH	LOW	INEFFICIENT COMPRESSOR	
HIGH	HIGH	OVER CHARGE	

**NOTE:** The 427R Refrigerator Sealed System Service Procedures for 134a are the same as those in the table at right, except for the "NOTE" in the second column of the table.



Problem	Service Procedures
HIGH LIONICILI ST SAST	Service Procedures and an advantage of the service procedures and the service procedures are service procedures.
Non-Operating, Inefficient, Noisy Compressor	a. Capture refrigerant b. Replace Compressor
( <b>NOTE</b> : To check for a non- operating compressor, a hard start kit can be used)	c. Replace filter-drier d. Evacuate or sweep charge system  NOTE: If evacuating the sealed system, you must evacuate from both the low & high sides, due to the refrigerant valves. If sweep charging the sealed system, you must energize each refrigerant valves during the sweeping procedure. (See Manual Valve Activation Mode in Section 3) e. Recharge system with Virgin 134a refrigerant.
High Side leak	<ul> <li>a. Capture refrigerant.</li> <li>b. Repair leak.</li> <li>c. Replace filter-drier.</li> <li>d. Evacuate or sweep charge system.</li> <li>NOTE: If evacuating the sealed system, you must evacuate from both the low &amp; high sides, due to the refrigerant valves. If sweep charging the sealed system, you must energize each refrigerant valves during the sweeping procedure. (See Manual Valve Activation Mode in Section 3)</li> <li>e. Recharge system with Virgin 134a refrigerant.</li> </ul>
Low Side Leak  Vino 14 & 24 aniq azon  Vino 24 &  Vino	<ul> <li>a. Capture refrigerant.</li> <li>b. Repair leak (if at solder joint) or replace part.</li> <li>c. Back flush high side of sealed system.</li> <li>d. Replace compressor.</li> <li>e. Replace filter-drier.</li> <li>f. Evacuate or sweep charge system.</li> <li>NOTE: If evacuating the sealed system, you must evacuate from both the low &amp; high sides, due to the refrigerant valves. If sweep charging the sealed system, you must energize each refrigerant valves during the sweeping procedure. (See Manual Valve Activation Mode in Section 3)</li> <li>g. Recharge system with Virgin 134a refrigerant.</li> </ul>
Contaminated Sealed System  Examples:  > Burned out compressor  > Excessive moisture from leak in condensate loop or in low side  > Plugged capillary tube	<ul> <li>a. Capture refrigerant.</li> <li>b. Repair leak (if at solder joint) or replace part.</li> <li>c. Back flush high side of sealed system.</li> <li>d. Replace compressor.</li> <li>e. Replace filter-drier.</li> <li>f. Replace heat exchanger if cap tube is clogged.</li> <li>g. Install a low side drier on suction line.</li> <li>h. Evacuate or sweep charge sealed system.</li> <li>NOTE: If evacuating the sealed system, you must evacuate from both the low &amp; high sides, due to the refrigerant valves. If sweep charging the sealed system, you must energize each refrigerant valves during the sweeping procedure. (See Manual Valve Activation Mode in Section 3)</li> <li>i. Recharge with Virgin 134a refrigerant.</li> </ul>
Restriction  (NOTE: If restriction is due to sealed system being contaminated, see Contaminated Sealed System above.)	<ul> <li>a. Capture refrigerant.</li> <li>b. Locate and remove restriction or locate and replace part.</li> <li>c. Back flush high side of sealed system.</li> <li>d. Replace filter-drier.</li> <li>e. Evacuate or sweep charge system.</li> <li>NOTE: If evacuating the sealed system, you must evacuate from both the low &amp; high sides, due to the refrigerant valves. If sweep charging the sealed system, you must energize each refrigerant valves during the sweeping procedure. (See Manual Valve Activation Mode in Section 3)</li> <li>f Recharge system with Virgin 134a refrigerant.</li> </ul>
Overcharge	<ul> <li>a. Capture refrigerant.</li> <li>b. Replace filter-drier.</li> <li>c. Evacuate or sweep charge system.</li> <li>NOTE: If evacuating the sealed system, you must evacuate from both the low &amp; high sides, due to the refrigerant valves. If sweep charging the sealed system, you must energize each refrigerant valves during the sweeping procedure. (See Manual Valve Activation Mode in Section 3)</li> <li>d. Recharge system with Virgin 134a refrigerant.</li> </ul>



#### WINE STORAGE MEMBRANE SWITCH / RIBBON CABLE TEST PROCEDURE

The membrane switch is that part of the control panel assembly consisting of the function keys used for all input functions to the electronic control system. (See Figure 8-1)

Below is the procedure to follow if the integrity of the membrane switch and/or its ribbon cable is suspect. To perform these tests, the ribbon cable terminal housing must be disconnected from the control board.

**NOTE:** The wires of the ribbon cable are exposed at the back side of the terminal housing. With an Ohm Meter, check for continuity at these exposed points/pins. Pin #1 is at the top of the terminal housing, closest to the arrow on the housing (see Figure 8-1).

- 1. Without pressing any of the keys on the membrane switch, check for continuity across all pin combinations. With no keys pressed, there should be no continuity.
- 2. With the UNIT ON/OFF key depressed, there should be continuity across pins #4 & #6 only.
- 3. With the lower wine storage COLDER key depressed, there should be continuity across pins #2 & #3 only.
- 4. With the lower wine storage WARMER key depressed, there should be continuity across pins #3 & #4 only.
- 5. With the upper wine storage COLDER key depressed, there should be continuity across pins #2 & #6 only.
- 6. With the upper wine storage WARMER key depressed, there should be continuity across pins #5 & #7 only.
- 7. With the LIGHTS ON/OFF key depressed, there should be continuity across pins #5 & #6 only.
- 8. With the alarm bell key depressed, there should be continuity across pins #3 & #7 only.

**NOTE:** If the membrane switch fails any of the fore mentioned tests, the control panel assembly should be replaced. If all the tests are passed and the control panel is still inoperable, replace the control board.

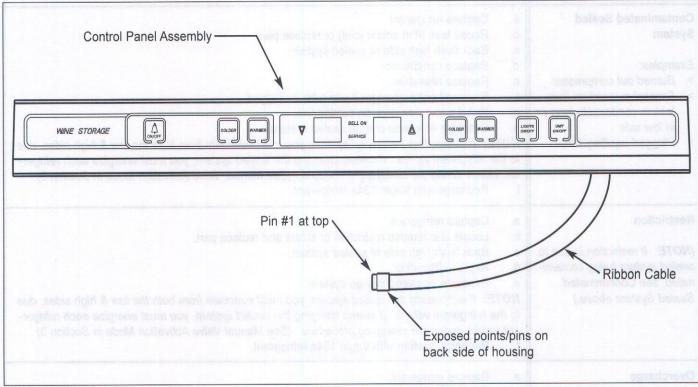


Figure 8-1. Membrane Switch