**LBCD Static Tests**
(Dynamic Tests on Page 2)

**NOTICE**
Static tests may not diagnose all LBCD failures. Dynamic testing should also be performed. See Page 2.

**Before testing unit:**
Remove all cables from top terminals and control harness from side of unit.

<table>
<thead>
<tr>
<th>METER SCALE &amp; SYMBOL</th>
<th>METER (+) LEAD CONNECTION</th>
<th>METER (-) LEAD CONNECTION</th>
<th>TESTED CIRCUIT</th>
<th>EXPECTED READING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diode Test 1+</td>
<td>24 V LOAD terminal</td>
<td>24 V BATTERY terminal</td>
<td>24 V battery circuit</td>
<td>OL (blocking)</td>
</tr>
<tr>
<td>Diode Test 1+</td>
<td>24 V BATTERY terminal</td>
<td>24 V LOAD terminal</td>
<td>24 V battery circuit</td>
<td>.3-.7 V (flow)</td>
</tr>
<tr>
<td>Diode Test 1+</td>
<td>12 V LOAD terminal</td>
<td>12 V BATTERY terminal</td>
<td>12 V battery circuit</td>
<td>OL (blocking)</td>
</tr>
<tr>
<td>Diode Test 1+</td>
<td>12 V BATTERY terminal</td>
<td>12 V LOAD terminal</td>
<td>12 V battery circuit</td>
<td>.3-.7 V (flow)</td>
</tr>
<tr>
<td>Diode Test 1+</td>
<td>Socket A*</td>
<td>Socket B*</td>
<td>internal circuit</td>
<td>.3-.7 V (flow)</td>
</tr>
<tr>
<td>Diode Test 1+</td>
<td>Socket B*</td>
<td>Socket A*</td>
<td>internal circuit</td>
<td>OL (blocking)</td>
</tr>
<tr>
<td>Ohms Ω</td>
<td>Socket A*</td>
<td>Socket C*</td>
<td>internal circuit</td>
<td>&gt;25 K ohms</td>
</tr>
<tr>
<td>Ohms Ω</td>
<td>Socket A*</td>
<td>Socket D*</td>
<td>internal circuit</td>
<td>300-350 ohms</td>
</tr>
<tr>
<td>Ohms Ω</td>
<td>Socket A*</td>
<td>Socket E*</td>
<td>internal circuit</td>
<td>&gt;25 K ohms</td>
</tr>
</tbody>
</table>

* Socket in LBCD control harness receptacle

**TABLE 2 – N2003 Harness Plug Pin Functions**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Battery Ground</td>
</tr>
<tr>
<td>B</td>
<td>Chg. System Indicator Ground Signal</td>
</tr>
<tr>
<td>C</td>
<td>Battery Disconnect Ground Signal</td>
</tr>
<tr>
<td>D</td>
<td>AC In from Regulator AC Terminal</td>
</tr>
<tr>
<td>E</td>
<td>Battery Voltage Sense/Trickle Charge</td>
</tr>
</tbody>
</table>

**Figure 1 – N2003 Load & Battery Control Device**

**Figure 2 – N2003 Control Harness Receptacle**
LBCD DYNAMIC Tests
(Static Tests on Page 1)

MASTER SWITCH ON, KEY ON, ENGINE ON

Start
↓
Steady AMBER
↓
Read RPM
↓
Is RPM greater than 1500?
Yes | No
↓
Charging system indicator LED is “OFF.”
Wait ten seconds.
↓
Read System Voltage
↓
Is System Voltage less than 20.5 V?
Yes | No
↓
Steady RED
↓
Batteries are disconnected.
↓
Read Alternator Voltage
↓
Is Alternator Voltage less than 24 V?
Yes | No
↓
Trickle charge “OFF.” | Trickle charge “ON.”
↓
Read Battery Voltage
↓
Is Battery Voltage more than 24.5 V for one time and one time only?
Yes | No
↓
Batteries are reconnected.
Steady GREEN.
System is operating properly.
↓
Steady RED
↓
Are batteries disconnected?
Yes | No
↓
Connect batteries and then go back to “Read System Voltage” above
↓
LBCD is defective. Replace.
↓
Steady GREEN. System is operating properly.