

**TESTING (Continued)**

If the difference between cells is less than 50 points (0.050) and all cells are above 1.225, conduct the capacity test. If the battery fails, replace the battery. If it passes, return to service.

**BATTERY TESTING PROCEDURE — TEST A**

TEST STEP	RESULT	ACTION TO TAKE																										
<b>A1 VISUAL INSPECTION</b> <ul style="list-style-type: none"> <li>Remove negative cable, then positive cable.</li> <li>Check for dirty or corroded connections.</li> <li>Are connections OK?</li> </ul>	No Yes	CLEAN terminals and clamps. GO to A2. GO to A2.																										
<b>A2 LOOSE BATTERY POST</b> <ul style="list-style-type: none"> <li>Check for loose battery posts.</li> <li>Are posts OK?</li> </ul>	No Yes	REPLACE battery. GO to A3.																										
<b>A3 CRACKED BATTERY COVER</b> <ul style="list-style-type: none"> <li>Remove holddowns and shields.</li> <li>Check for broken / cracked case or cover.</li> <li>Is cover OK?</li> </ul>	No Yes	REPLACE battery. GO to A4.																										
<b>A4 BATTERY CAPACITY AND LOAD TEST</b> <p>NOTE: Whenever possible, test and charge battery at or near room temperature.</p> <ul style="list-style-type: none"> <li>Use a high rate discharge tester with a variable rate control or a fused rate tester with meter compensation for different battery electrical sizes. Follow instructions supplied with tester for the battery capacity test.</li> <li>Recommended discharge rate at 27°C (80°F): one-half of the cold cranking amps.</li> </ul> <table border="1"> <thead> <tr> <th>Cold Cranking Amps</th> <th>Discharge Rate Amps</th> </tr> </thead> <tbody> <tr> <td>650</td> <td>325</td> </tr> <tr> <td>540</td> <td>270</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>Voltage readings at 15 seconds for good battery (Battery Capacity Test).</li> </ul> <table border="1"> <thead> <tr> <th>Approximate Battery Temperature</th> <th>Minimum Load Voltage</th> </tr> </thead> <tbody> <tr> <td>27°C (80°F) and above</td> <td>9.6</td> </tr> <tr> <td>21°C (70°F)</td> <td>9.6</td> </tr> <tr> <td>16°C (60°F)</td> <td>9.5</td> </tr> <tr> <td>10°C (50°F)</td> <td>9.4</td> </tr> <tr> <td>4°C (40°F)</td> <td>9.3</td> </tr> <tr> <td>-1°C (30°F)</td> <td>9.1</td> </tr> <tr> <td>-7°C (20°F)</td> <td>8.9</td> </tr> <tr> <td>-12°C (10°F)</td> <td>8.7</td> </tr> <tr> <td>-18°C (0°F)</td> <td>8.5</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>Wait 2 minutes and check the Open Circuit Voltage (OCV).</li> <li>Measure OCV with a digital voltmeter capable of reading 1 / 100 volt.</li> </ul>	Cold Cranking Amps	Discharge Rate Amps	650	325	540	270	Approximate Battery Temperature	Minimum Load Voltage	27°C (80°F) and above	9.6	21°C (70°F)	9.6	16°C (60°F)	9.5	10°C (50°F)	9.4	4°C (40°F)	9.3	-1°C (30°F)	9.1	-7°C (20°F)	8.9	-12°C (10°F)	8.7	-18°C (0°F)	8.5	Passed the minimum load voltage and OCV above 12.40 Passed the minimum load voltage and OCV below 12.40 Failed the minimum load voltage and OCV above 12.40 Failed the minimum load voltage and OCV below 12.40	Battery OK. Battery OK but needs charging. Battery worn out. REPLACE battery. CHARGE battery for 20 minutes at 35 amps. REPEAT Step A4 (load test). Passed the minimum load voltage. Battery OK but needs charging. Failed the minimum load voltage. REPLACE battery.
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