

This procedure should help determine whether the battery returned by the customer has reached its end of life or simply needs a full recharge. Depending on the time available one may choose to perform either the longer load test (Step 4) or the shorter ½CCA load test (Step 5). The ½CCA test is quicker but less reliable than the longer test.

An alternative approach to determine the health of the battery is to use the ODYSSEY® PortAlyzer handheld tester specifically developed for these batteries. The test procedure is shown in the flowchart at the end of this document.

1. Measure the open circuit voltage (OCV) of the battery. Proceed to Step 4 or Step 5 if the OCV is equal to or more than 12.80V; if not go to Step 2.
2. Charge the battery using the OMAX-50A-1B Ultimizer charger until the green LED light comes on, indicating the completion of the charge. Stop the test if the red LED comes on indicating a bad battery.
3. Unplug the charger and disconnect the battery from the charger. Let the battery rest for at least 10-12 hours and measure the OCV. If it is equal to or more than 12.80V proceed to the next step; otherwise reject the battery.
4. **Long test:** Discharge the battery using a resistor or other suitable load until the voltage drops to 10.00V and record the time taken to reach this voltage. Let the battery rest for an hour and repeat Steps 1 through 4. If the time taken by the battery to drop to 10.00V is longer in the second discharge than in the first discharge the battery may be returned to service after a full recharge; if not the battery should be rejected as having reached end of life.
5. **½CCA test:** Battery OCV must be at least 12.60V to proceed with this test. Connect the load tester cables and the voltage leads of a separate digital voltmeter (if the tester does not have a built-in digital voltmeter) to the battery terminals.
6. Adjust the tester load current to load the battery to half its rated CCA and apply the load for 15 seconds. Table I shows the ½CCA values for all ODYSSEY® models. Use Table II to adjust the battery end of test voltage for temperature.

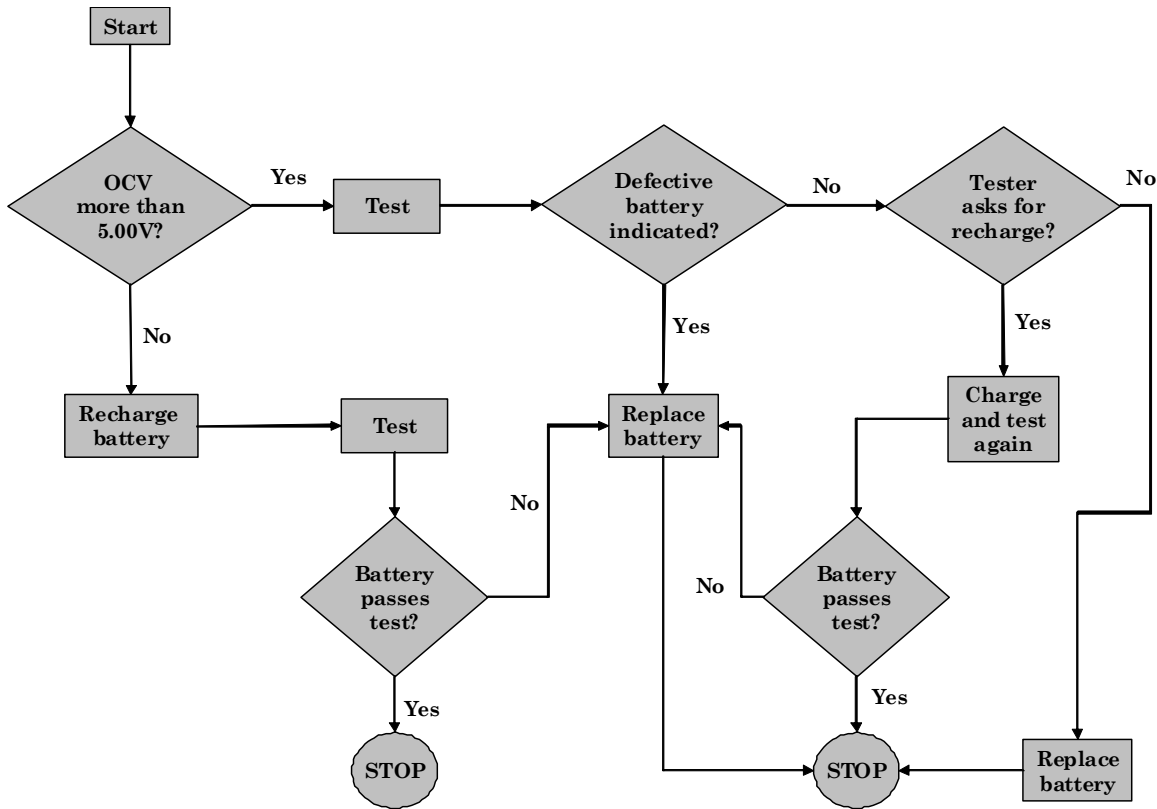
Table I

Model	½CCA test value (A)	Model	½CCA test value (A)	Model	½CCA test value (A)
PC310	50	PC925	190	PC1700	438
PC535	100	PC1200	275	PC1750	465
PC545	93	PC1230	365	PC1800	650
PC625	133	PC1400	410	PC2150	575
PC680	110	PC1500	440	PC2250	613

Table II

Temperature	End of test voltage
70°F or higher	9.60V
60°F	9.50V
50°F	9.40V
40°F	9.30V
30°F	9.10V
20°F	8.90V
10°F	8.70V
0°F	8.50V

7. At the end of 15 seconds note the battery voltage on the voltmeter and discontinue the test. If the temperature is around 70°F or warmer the battery voltage should be at or above 9.60V. If so the battery can be returned to service, otherwise reject the battery.



Testing ODYSSEY batteries with the PortAlyzer