

December 15, 2005

Marine Batteries – Spring Readiness

Starter and Deep Cycle Battery Testing – Load Test

READING ELECTRIC, a leading supplier of electro-mechanical equipment, services, and problem solver for Industrial and Commercial customers for over 45 years provides technical information to the Region's Residential, Commercial and Industrial Community. This Bulletin provides information regarding verifying the condition of batteries (starting and house batteries) to ensure dependable operation. There are two tests that are recommended by battery manufacturers to check battery condition: Load Testing and Conductance Testing. This Bulletin describes the Load Test.

Load Test: First and foremost, when conducting any operations with batteries follow safety precautions and always WEAR PROPER EYE PROTECTION. The Load Test is the best way to determine if a starting battery or a deep cycle battery is delivering adequate electrical performance. A load test will indicate any internal problems that may not be found by only testing the Specific Gravity of the battery. If you do not have a Load Tester, contact your Full Service Battery Distributor.



#1: Ensure your battery is fully charged. If your 'no load' voltage is below 12.4 volts, have your charging system tested and recharge your battery.

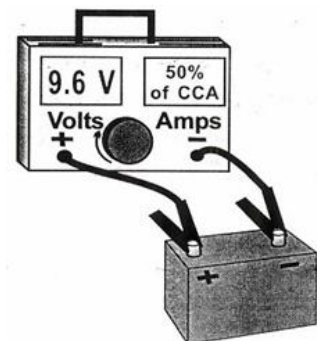
#2: Since batteries have different capacities, you need to know the 0 °F Cold Cranking Rating (CCA). For example, a 27 series gelled battery is rated at 505 CCA, and an 8D Lead Acid (908D) is rated at 1375 CCA. If you do not know the CCA rating, contact your Full Service Battery Distributor.

#3: The load test is performed at one-half the CCA. And the load is applied for 15 seconds. The battery voltage at the end of the 15 seconds with the load still applied is recorded. Note that the Load Test is performed on an individual battery, not on a battery bank.

#4: Allowing the battery to rest for 15 seconds and then retesting for an additional 15 seconds simulates a typical cyclic starting requirement and is also a good benchmark for house batteries.

#5: Recorded voltages are temperature compensated based on the chart below to determine minimum acceptable battery voltage. If the load test indicates a bad battery it should be replaced.

Battery Temperature	12-Volt Battery	6-Volt Battery
70° F (21°C) or above	9.60	4.80
60° F (16°C)	9.50	4.75
50° F (10°C)	9.40	4.70
40° F (4°C)	9.30	4.65
30° F (-1°C)	9.10	4.55
20° F (-6°C)	8.90	4.45
10° F (-12°C)	8.70	4.35
0° F (-18°C)	8.50	4.25



READING ELECTRIC is a leading **Authorized Full Service Distributor** and offers a complete line of Deka Batteries. For additional information on Battery Power Systems, contact READING ELECTRIC. Phone: 610-929-5777; Fax: 610-929-1670; Visit our Website at www.readingelectric.com or email us for additional information at info@readingelectric.com {TB518-121505}