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TECHNICAL BULLETIN

Subject: Capacity Testing of Aircraft Batteries at Non-C1 Rates

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When using BC-5000 and BC-6000 Battery Capacity Testers, the minimum discharge current setting is 10 amperes, and the current is only adjustable in 1 ampere increments. Several of Concorde's RG series aircraft batteries cannot be tested at the C1 rate with these battery capacity testers because:
a) The C1 rate is less than 10 amperes, or
b) The C1 rate is not a whole number.
For these batteries, the following table provides test settings to obtain results that are equivalent to testing at the C1 rate:

Battery Type	Rated C1 Capacity (Ah)	Test Rate (A)	Equivalent Capacity at Test Rate (Ah)	100% C1 Capacity at Test Rate		90% C1 Capacity at Test Rate		85% C1 Capacity at Test Rate	
				Minutes	Percent Capacity	Minutes	Percent Capacity	Minutes	Percent Capacity
RG24-9	8.5	10	8.2	49	82	44	74	42	70
RG24-10	8.5	10	8.2	49	82	44	74	42	70
RG24-15	13.6	14	13.5	58	97	52	87	49	82
RG24-15M	13.6	14	13.5	58	97	52	87	49	82
RG24-16	13.6	14	13.5	58	97	52	87	49	82

For example, when testing an RG24-9 or RG24-10 using a BC-5000 or BC-6000 tester, set the discharge current at 10 amperes. When tested at this rate, a battery with 100% C1 capacity will display 82%, a battery with 90% C1 capacity will display 74%, and a battery with 85% C1 capacity will display 70%. Other results obtained from the tester can be converted to the C1 capacity using the following equation:

C1 Capacity (%) = Percent Capacity x 1.2195 (round off to the nearest whole number)

Similarly, when testing an RG24-15, RG24-15M, or RG24-16 using a BC-5000 or BC-6000 tester, set the discharge current at 14 amperes. When tested at this rate, a battery with 100% C1 capacity will display 97%, a battery with 90% C1 capacity will display 87%, and a battery with 85% C1 capacity will display 82%. Other results obtained from the tester can be converted to the C1 capacity using the following equation:

C1 Capacity (%) = Percent Capacity x 1.0370 (round off to the nearest whole number)

NOTE: The newer BC-7000 and BC-8000 units are not limited to a 10 ampere minimum discharge current and are capable of discharge in tenths of an ampere from 0.5 to 15.0 amps. Therefore, the C1 capacities of the batteries listed above can be tested using the normal C1 rate when using these newer units.