



CHEK-A-CELL™

Instruction Manual



INTRODUCTION:

The CHEK-A-CELL is a digital battery load tester for all types of batteries in the 5.75 Volt to 20 Volt, 1 to 20 Amp Hour range. Rechargeable batteries that may be tested include Sealed Lead Acid, NiCad, NiMH, Lithium Ion (Lion), and others. Non-rechargeable (disposable) batteries may also be tested. These are commonly Carbon-Zinc or Alkaline batteries. The CHEK-A-CELL is often used to load test 6 volt or 12 volt sealed lead acid batteries. These types of batteries are often used for backup power in Emergency Lighting, Security Systems, and Uninterruptible Power Supplies (UPS). They are also used as a power source in many portable garden tools (weed wackers, small lawn mowers, etc) and children's electric cars and motor bikes. NiCad, NiMH, and Lion batteries are common power sources for portable power tools. By applying a load to the battery and measuring the battery's voltage, the CHEK-A-CELL helps to determine the battery's condition.

Battery Testing Notes:

The CHEK-A-CELL contains an internal "load" for testing batteries. This load will heat up while the battery is being tested. The test time must be limited to prevent the load from overheating. Generally, 5 seconds is a sufficient test duration to determine a battery's condition. Higher voltage batteries will heat the load more quickly than lower voltage batteries.

WARNING!

Do not apply battery voltage to CHEK-A-CELL for longer that 10 seconds.

Allow CHEK-A-CELL to "cool" for 3 minutes between measurements.

If testing a rechargeable battery, the battery ***MUST BE FULLY CHARGED*** prior to the test. In backup power applications, the battery is usually under constant charge, and should be fully charged at any time (unless just recovering from prior usage).

In other applications, make sure the battery is fully charged before testing.

An undercharged battery will fail the CHEK-A-CELL's test. A fault in the battery charging circuitry could cause a battery to fail the test. Make sure the charging circuit is operating properly.

Batteries can exhibit a "float" or "surface" charge immediately after "fast charging" or after extended standby charging. The surface charge causes the battery voltage to be higher than normal. The surface voltage usually collapses rapidly under load, or will gradually dissipate by itself if the battery is allowed to set for several hours after being disconnected from the charging circuit.

Using the CHEK-A-CELL:

Disconnect the battery from the charging circuit. If the battery is wired into a circuit, it is only necessary to disconnect one side of the battery..... either positive or negative.

Using the test probes and observing proper polarityred is positive (+), black is negative (-)..... touch the CHEK-A-CELL's probes to the battery terminals.

Observe the reading on the digital display.

If no display is obtained, the battery may not be producing the minimum voltage required to operate the CHEK-A-CELL (about 4.5 Volts). The CHEK-A-CELL will not test 1.5 Volt (AAA, AA, C, or D) or 3 Volt (Lithium coin cells) batteries. The load produced by the CHEK-A-CELL is usually too large for the typical 9 Volt battery.

If the battery is the appropriate size, and no display is obtained, it may be "dead" or require charging.

If a "minus" (-) symbol lights in the digital display, the polarity of the test probes is reversed, or the battery is reversed charged. Reverse the test probes to obtain a reading.

If testing a 6 Volt sealed lead acid battery, and the reading drops below 6.20 Volts in several seconds, the battery is “weak” and may need to be replaced (or the charging circuitry may have a fault).

If testing a 12 Volt sealed lead acid battery, and the reading drops below 12.40 Volts in several seconds, the battery is “weak” and may need to be replaced (or the charging circuitry may have a fault).

If a 6 Volt sealed lead acid battery displays a voltage in excess of 6.8 volts, it has a surface charge. If the voltage does not drop to 6.3 volts in one or two seconds, the battery must be allowed to set for several hours for the surface charge to dissipate.

If a 12 Volt sealed lead acid battery displays a voltage in excess of 13.6 volts, it has a surface charge. If the voltage does not drop to 12.6 volts in one or two seconds, the battery must be allowed to set for several hours for the surface charge to dissipate.

Rechargeable batteries can develop internal shorts that discharge the battery. If the battery is charged using a trickle charger (usually takes 12 to 16 hours to charge), the internal shorts often prevent the battery from obtaining a full charge. When tested with the CHEK-A-CELL, the battery’s voltage will be low, and it will drop quickly, indicating that the battery is bad.

However, a battery with an internal short can sometimes be fully charged if a rapid charger is used (charges the battery in an hour or less). The high charge rate can overpower the short and charge the battery. If such a battery is tested with the CHEK-A-CELL right after being charged, the battery may appear to be OK. However, if the battery is allowed to set for a few hours, the internal short will drain the charge from the battery. Testing with the CHEK-A-CELL at this time will show the battery is bad.

Use caution if using the CHEK-A-CELL to test battery paks containing electronics. This is usually indicated by the battery having more than 2 contacts. The additional contacts often connect to temperature sensors and ‘fuel gage’ electronics. Shorting these contacts with the CHEK-A-CELL probes can damage the circuitry.

Specifications:

Operating Voltage.....	5.75 to 19.99 volts DC
Resolution.....	0.01 volts
Accuracy.....	+/- 0.03 volts (at 25 degrees C, +/- 5 degrees)
Load Current	typically 600mA at 6 volts, 1.2 Amps at 12 volts
Battery Amp Hour Rating	1 to 20 Amp Hours
Duration of Measurement	10 seconds maximum
Display	3 1/2 digit, 0.56" high, red LEDs
Test Leads	approx 28" long, one black alligator clip supplied
Dimensions	approx 3 1/4" x 6" x 1 3/8"
Weight.....	approx 11 ounces

Warranty:

ONE YEAR LIMITED WARRANTY

Triplett warrants instruments and test equipment manufactured by it to be free from defective material or workmanship and agrees to repair or replace such products which, under normal use and service, disclose the defect to be the fault of our manufacturing, with no charge within one year of the date of original purchase for parts and labor. If we are unable to repair or replace the product, we will make a refund of the purchase price. Consult the Instruction Manual for instructions regarding the proper use and servicing of instruments and test equipment. Our obligation under this warranty is limited to repairing, replacing, or making refund on any instrument or test equipment which proves to be defective within one year from the date of original purchase.

This warranty does not apply to any of our products which have been repaired or altered by unauthorized persons in any way so as, in our sole judgment, to injure their stability or reliability, or which have been subject to misuse, abuse, misapplication, negligence, accident or which have had the serial numbers altered, defaced, or removed. Accessories, including batteries and fuses, not of our manufacture used with this product are not covered by this warranty.

ALL WARRANTIES IMPLIED BY LAW ARE HEREBY LIMITED TO A PERIOD OF ONE YEAR FROM DATE OF PURCHASE, AND THE PROVISIONS OF THE WARRANTY ARE EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES EXPRESSED OR IMPLIED.

The purchaser agrees to assume all liability for any damages and bodily injury which may result from the use or misuse of the product by the purchaser, his employees, or others, and the remedies provided for in this warranty are expressly in lieu of any other liability Triplett may have, including incidental or consequential damages.

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Triplett reserves the right to discontinue models at any time, or change specifications, price or design, without notice and without incurring any obligation.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state.



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